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Original Articles.

TALMA'S OPERATION IN CIRRHOSIS OF THE LIVER.

M. L. HARRIS, M.D.
CHICAGO.

Since Greenough's recent article[1] contains a list in detail of the cases of ascites due to cirrhosis of the liver operated on up to the end of 1902, no attempt will be made to review the literature. The author desires, however, to briefly mention his own experience in operating on this variety of cases.

In an article on this subject in THE JOURNAL of the American Medical Association, May 3, 1902, the author reviewed the available literature up to that date and published two cases of his own. Since then he has operated on four more cases, making six altogether. The two cases previously reported were:

CASE 1.—Man, aged 56, hard drinker; atrophic liver, enlarged spleen, jaundice, ascites; duration about one year; tapped nine times. Omentum greatly thickened and very vascular. Operation March 30, 1900. Abdomen closed without drainage. Recovery. No improvement. Died in three weeks. Autopsy showed cause of death was cerebral hemorrhage.

CASE 2.—Man, aged 55, hard drinker; atrophic liver, spleen enlarged, ascites; duration about four months. Edema of feet; marked arteriosclerosis. Operation July 10, 1901. Abdomen closed, no drainage, recovery. Tapped three times after operation. Died in two months.

The unpublished cases are:

CASE 1.—F. P., aged 40, farmer. Admitted to hospital Oct. 23, 1902. Family history negative. Had pneumonia at 14 and smallpox at 18. No venereal history. Had taken alcoholics freely for years.

Present trouble began about six years ago with weakness, pain in the right side in region of liver, with slight jaundice. Since then has gradually lost in weight and strength. About six weeks ago noticed that his legs and abdomen began to swell. Has had considerable bleeding from the nose.

Examination.—Poorly nourished; complexion sallow, conjunctivæ icteric; tongue coated. Heart negative; double hydrothorax. Few dry râles at apex of left lung. Abdomen moderately distended with fluid. Edge of liver felt hard and granular. Spleen enlarged. Urine clear; 1003; slightly acid, yellow. Urea 0.5 per cent., no albumin, no sugar, no casts. Was tapped once. Fluid was alkaline, sp. gr. 1009. Did not coagulate. Contained red blood cells, some normal, others crenated and a few leucocytes.

Diagnosis.—Cirrhosis of liver with ascites.

Operation.—Oct. 30, 1902. Median incision above umbilicus. Liver was hard and granular, but apparently not much diminished in size. Parietal peritoneum denuded by scraping with scalpel and omentum stitched to it over as large an area as possible. As the gall bladder was quite large and distended it was drained through a second incision. Incision in midline closed without drainage.

Recovery. After two weeks he was up and around. Some fluid reaccumulated in the abdomen, but not enough to require tapping. He carried a bottle pinned to the dressing, into which the bile drained. He felt quite bright and was very active, while before the operation he had been confined to his bed. On November 26 he took an ordinary dose of Epsom salts. This produced considerable griping. He became collapsed and died in a few hours.

Autopsy.—Limited to abdominal cavity. Considerable fluid in peritoneal cavity. Liver firmly adherent to diaphragm. Omentum, transverse colon and stomach adherent to parietal peritoneum. Liver very small, markedly granular and cuts with greatly increased resistance. Spleen enlarged, firm and of a dark reddish color. Liver with portion of diaphragm, mesentery, etc., removed for microscopic examination. Peritoneum showed marked thickening of the endothelial layer. Hyperplasia of subendothelial connective tissue with slight diffuse round cell infiltration.

CASE 2.—E. W., aged 43, watchman. Family history negative. Excessive smoker of cigars and pipe. Heavy drinker; daily average six glasses of gin, eight of beer and an occasional whisky. Specific infections denied. In 1891 lost right arm in railroad accident.

General health fair until about four years ago, when he was admitted to Alexian Brothers' Hospital with ascites. He remained in the hospital about three weeks and was tapped three times. He left improved, and continued feeling fairly well without reaccumulation of the ascites for about three years. The abdomen then became distended and he was tapped once. Following this was about one year of comparative health. The only complaints were a rather poor appetite at times and an occasional attack of diarrhea, alternating with constipation. Two days ago he caught cold and the abdomen rapidly filled again. He had considerable paroxysmal pain in the abdomen. No vomiting, but eructations of gas.

Examination.—On entering the hospital, Dec. 22, 1902, examination showed a well-developed man, though beginning to show emaciation. Skin and conjunctivæ distinctly icteric. Right arm absent. Slight edema of legs.

Heart: Apex in fourth interspace one inch inside of nipple. Rhythm rapid but regular. Second sound accentuated. No murmurs. Lungs: A few râles.

Abdomen: Filled with fluid; superficial veins distended; a distinct line of dilated capillaries following the costal arch on each side. Upper border of liver at fifth rib in mammary line. Lower border not distinctly outlined on account of the ascites. Spleen not palpable.

Urinalysis: 1020, dark brown. Urea, 2.4 per cent. Alb. +; sugar —; bile +. Microscopic: casts, erythrocytes, leucocytes and epithelial cells.

Blood: Reds, 3,976,000; whites, 2,750; differential count, 400 counted. Polymorphonuclear, 84 per cent. Small lymphocytes, 12 per cent. Large lymphocytes, 4 per cent. One eosinophile.

Jan. 1, 1903, tapped and 3,000 c.c. fluid withdrawn. Fluid alkaline, bile stained. Contained albumin. The fluid was

[1] Am. Jour. Med. Sci., 1902, cxxiv, p. 979.

centrifuged and the cells stained. Result: Polymorphonuclear 84 per cent. Lymphocytes, 16 per cent.

Operation.—Jan. 6, 1903. Median incision above umbilicus. On getting through the abdominal wall very extensive adhesions were found attached to the omentum and colon. The veins were greatly enlarged and considerable hemorrhage was encountered. The adhesions were so extensive that it was impossible to get through them into the abdominal cavity. Another incision was therefore made below the umbilicus. This entered the free cavity. Examination now disclosed the most extensive adhesions, involving the entire omentum throughout the length of the transverse colon. The liver was also adherent to the diaphragm. The spleen, stomach, gall bladder and edge of liver could not be palpated at all, owing to the mass of adhesions. The walls of the small intestine were unusually thick and edematous. As there was no hope of making adhesions any more extensive than were already present, the incisions were closed.

Patient died Jan. 12, 1903, six days after the operation.

Autopsy showed typical contracted liver adherent to diaphragm, with extensive adhesion of omentum, etc., to anterior abdominal wall. Collateral circulation was well established and the veins very large.

CASE 3.—Wm. K., aged 36. Bartender. Family history not known. Smokes and chews tobacco to excess. Has tended bar for 20 years. During first ten years drank only a few glasses of beer a day; during last ten years drank from 15 to 18 whiskies a day with the beer, and for the past year drank even more heavily. Has had measles and smallpox, gonorrhea, but no syphilis.

Present Trouble.—About one year ago began to have morning vomiting. A drink of whisky would stop vomiting and nervousness. Occasionally could not retain his meals. Appetite variable. Easily fatigued. Slept poorly. Troubled with alternating constipation and diarrhea. About four months ago he began to have chilly feelings once or twice a week followed by sweats. Five months ago jaundice gradually appeared without pain. Stools for past week have been clay colored and pasty. Three days before entering the hospital pain, cramping in character, appeared in the right hypochondriac region and he noticed that the abdomen began to swell.

Examination.—Entered hospital Feb. 26, 1903. Weight, 120 pounds. Loss in past year, 30 pounds. Skin and sclera deeply jaundiced. Lips dry and cracked. Tongue furred. Showed marked symptoms of cholemia.

Heart: All sounds weak. Lungs: A few râles. Liver dulness extends about 3 cm. below arch. Spleen not palpable.

Abdomen considerably distended with fluid. Hemorrhoidal veins greatly distended and dilated. Knee reflexes absent. Eye reflexes present.

Urinalysis: Color dark, greenish cast, turbid, alkaline 1008. Urea, 0.2 per cent. Albumin trace. No albumose, no sugar. Bile, much. Hyaline and granular casts few. Leucocytes and epithelial cells.

Blood examination: Reds, 3,160,000; whites, 25,600; polymorphonuclear, 75 per cent.; large mononuclear, 13 per cent.; small mononuclear, 12 per cent.; no eosinophiles; hemoglobin, 50 per cent.

Inoculations were made from the blood drawn from a vein in the arm, but no growths were obtained.

Operation.—Longitudinal incision right border of rectus. No adhesions of omentum present. Gall bladder filled, but not abnormally distended. Liver decidedly cirrhotic, very firm in consistency; surface granular. On the inferior surface of the liver about the hilus were two or three lobules or masses about the size of hens' eggs. When first palpated they felt like a malignant growth, but closer investigation showed them to be composed of tissue similar in appearance to the surrounding liver.

The gall bladder was stitched in the upper edge of the wound and drained. A large pocket was formed by dissecting up the inner layer of the sheath of the rectus, and into this the omentum was placed and stitched with catgut. The incision was closed up to the drain. His symptoms of profound cholemia or intoxication continued unabated and he died on the second day. No autopsy permitted.

CASE 4.—Mrs. E. C. S., aged 43. Father and mother living and well, aged 68 and 62 respectively. Six sisters living and in good health. Was healthy as a baby and throughout youth. Had usual diseases of childhood, except scarlet fever. Menstruation began at 13. At 18 was treated for chlorosis. At 27 had diphtheria, was very sick for four weeks, but recovered without complications. Married at 30. Has had two abortions, both induced by drugs at about the third month. Contracted syphilis at about the age of 25. Has been an excessive drinker of coffee, especially for past eight years. Drinks coffee at each meal and often between meals.

About two years ago patient was taken with attack of severe pain in right hypochondriac region. These attacks would recur at irregular intervals and often with increased severity. About one year ago began to have trouble with her stomach. Had feeling of fulness and distress in epigastric region with vomiting and palpitation of the heart.

About nine months ago had attacks of pain in both hypochondriac regions and soon thereafter first noticed abdomen enlarging. In July, 1902, was tapped and a large amount of fluid removed. Since then has been tapped fifteen times and from two to four gallons of fluid removed. At last tapping but little fluid was obtained, although abdomen was greatly distended. Constipation has been the rule. Has never been jaundiced. Is troubled considerably with dyspnea and cough with expectoration of tenacious mucus. Has lost considerable flesh. Legs somewhat edematous. Abdomen greatly distended.

Urinalysis Nov. 25, 1902: Acid, 1020; urea, 1.2 per cent.; albumin, —; sugar, —, casts, —.

Operation.—Nov. 25, 1902. Abdomen opened in the midline above the umbilicus. The most extensive adhesions were found between the omentum and anterior abdominal wall. The liver was adherent to the diaphragm and the gall bladder and edge of the liver could not be located owing to the mass of adhesions. As no more extensive adhesions could be produced the abdomen was closed. No improvement followed. She left the hospital Jan. 6, 1903, and went to a neighboring state, where she was heard from last about five months after the operation. The abdomen filled and tapping was necessary.[2]

Of the six cases, five were dead inside of a month after operation and one was alive, but without improvement, five months after operation. The five cases that died were undoubted cases of alcoholic cirrhosis; the one that was living at the end of five months was in all probability due to syphilis. All of them were far advanced when operation was undertaken, and, while it can not be claimed that any material improvement followed the operation, the cases are of interest and show some instructive points.

In two of the cases, in addition to omentopexy, cholecystostomy was performed in order to drain the gall tracts for the purpose of relieving, if possible, the so-called cholemic symptoms. Death followed in one of the cases in a few days; in the other, some apparent improvement occurred. From a bedridden patient, he was able to be up and about, became quite active mentally and physically, and the color of his skin cleared up considerably. The bile flowed freely. Just as we were feeling encouraged somewhat over his condition, he rather suddenly and quite unexpectedly died. We believe, however, that drainage of the gall tracts in connection with Talma's operation may be desirable in some cases showing cholemic symptoms.

The case of E. W. is of particular interest. A hard drinker, entering the hospital first in 1898 with distinct symptoms of cirrhosis with ascites. He was tapped three times in three weeks. The abdomen did not refill again for about three years, during which time he felt

2. Since writing this I have learned that the patient has died.

fairly well. Why did the ascites remain absent for such a long time following the three tappings? It is well-known that ascites sometimes disappears following the reduction in size of an enlarged and congested liver; but such can scarcely have been the case here, for the condition was one of a markedly contracted liver. It is also known that adhesions occasionally take place after tapping. The most probable explanation, therefore, is that the extensive adhesions which were found at the operation between the omentum, liver and abdominal parietes, and which were evidently of long standing, formed at the time of the first tappings, and the collateral circulation which resulted was sufficient to prevent the reaccumulation of the fluid for some time. If this explanation be correct, the case furnishes an excellent illustration of the benefits which might be expected at times to follow Talma's operation under favorable conditions.

The case also shows, as does that of Mrs. E. C. S., that, notwithstanding the most extensive adhesions, the time comes, sooner or later, when even a free collateral circulation is insufficient to prevent the development of ascites and the progress of the case to a fatal issue.

These cases also tend to confirm the statement of the writer in the article above mentioned on this subject to the effect that the congestion of the portal radicles was not the sole cause of the ascites, but that the changes in the peritoneum of a chronic inflammatory nature were instrumental in its production, particularly during the terminal stage. The fact that the fluid taken from the abdomen was hypertonic in the two cases, as shown by its crenating effect on freshly drawn blood cells from the same patient, is another evidence of the inflammatory character of the fluid.

In conclusion, the writer is of the opinion that the benefits to be derived from Talma's operation in alcoholic cirrhosis, even under favorable conditions, are but temporary. (In 105 cases collected by Greenough, but 9 showed improvement after two years.) In order to obtain the full benefit of the operation, it should be performed early, at the first appearance of ascites or even to anticipate the ascites, if possible. In cases showing jaundice or symptoms of cholemia, cholecystostomy should be performed at the same time.

THE RESTORATION OF THE PERINEUM.*

HENRY O. MARCY, A.M., M.D., LL.D.
BOSTON.

Recent publications show that, notwithstanding the study of the subject by many of our best surgeons during the present generation, there is by no means a general acceptation of any well-settled method for the repair of the injuries of the perineum. On this account I add this contribution, although I have several times published monographs on this subject.

As a primary premise, it may be accepted that the repair of any injured organ should be undertaken to restore it, as far as possible, to its original normal condition. In order to accomplish this, it must be first ascertained just what the normal condition has been. In other words, it must consist of an accurate knowledge of the anatomy and function of the component parts.

The injuries to the perineal structures vary widely. In the minor degree, the hymen, or the vaginal fourchette, may be the only part involved, but such lesion is, of course, excluded, except in the rarest instances, from surgical consideration.

The union of the transversi, interdigitating with the levator ani muscle, making the so-called perineal body, with their connective tissue sheaths, is the more common part to suffer injury. The lesion of these muscles may be central or lateral, a factor of some importance to determine before attempting restoration.

The lack of the central support due to such injury causes the transversi to contract toward their point of origin, resulting in a more or less marked patency of the vulvar opening. Where the injury is within this limit, the sphincter ani muscle, although itself uninjured, is in a measure disabled from the proper performance of its function by being no longer supported anteriorly. On this account the curve of the rectum is lost and the anal aperture falls posteriorly, inducing a saccation or pouching forward of the rectum, resulting in a more or less marked rectocele. *Pari passu*, the cervix is no longer held backward, and varying degrees of uterine displacement follow.

When the lesion has destroyed the entire septum between the vagina and rectum, the laceration is called complete. Of course, the saccation of the rectum does not take place, and more commonly the uterus remains in its normal position.

Since the dissections of Wm. Hunter, undertaken to demonstrate the anatomy and the physiologic function of the reproductive organs during pregnancy, the most valuable contribution to the proper understanding of the anatomy of the pelvic structures in the female are those of Dr. Henry Savage of London. These studies, supplemented by the important teachings derived from the study of frozen sections, greatly modify the previous views of the physiologic relationship of the pelvic organs. The depth of the perineum is less than usually described. The axis of the anus, cutting that of the vagina at nearly right angles, leaves in the external angle an irregular flattened position of tissue rarely, when examined on the living subject, more than one-half an inch in thickness. In the nulliparous woman this is clearly defined as a firm portion of the pelvic floor, and is composed of skin, fat, elastic and connective tissue, transverse muscles, sustaining fascia and the anterior portion of the sphincter ani muscle.

The vaginal side is usually concave and the rectal side convex, owing to the interblending of the sphincter ani. If the finger is carried just within the perineum proper, and a little to one side, there can be felt the firm encircling band of the levator pubococcygeus, attached to each rami of the pubes above and descending to join with the posterior fibers of the sphincter ani and the coccyx. In the perineum, posteriorly, this is firmly interblended on either side with the transverse perineal muscles. These muscles are under the control of volition, in considerable degree, and, acting conjointly, serve to draw the vagina forward toward the pubes.

The parturient and fecal canals are supported in the pelvic basin in close opposition, and the functional relationship is often such that the one may encroach on the other, in a way so as to occupy nearly all the space accorded to both. This is especially true in parturition, when the rectal space is reduced to a thin, folded, flattened tube; and often in elderly women, with old perineal lacerations, the rectum becomes saccated, pushing forward the posterior vaginal wall, forming a considerable-sized external tumor. The pelvic floor is so formed and blended about these openings that it not only sup-

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Obstetrics and Diseases of Women, and approved for publication by the Executive Committee: Drs. A. Palmer Dudley, H. P. Newman and J. H. Carstens.

ports these canals, but also materially aids them in their physiologic function. In intimate relation to both are the bladder and uterus in their ever-varying functional activity, and each is surrounded by a delicate plexus of nerves and vessels.

The sacral prominence throws a large proportion of the abdominal weight on the symphysis pubis and the recti muscles in the support of the body, and thus relieves the pelvic basin and takes off undue strain on the pelvic floor. The rectum is rarely entirely empty, is circular in shape, serves the digestive apparatus, in a measure, as a constantly receiving reservoir, and, when not distended, may be felt from the vagina as a flattened tube curving posteriorly. It is suspended and supported, so to speak hung, by the levator ani muscles which hold the vagina in their encircling loops. On the contrary, the vagina, entirely unlike the earlier diagrams, is flattened anteroposteriorly on itself, and, normally, its walls are, when at rest, ever in close apposition.

The vagina joins with the vulva at right angles to its lateral opening at the entrance of its passage through the pelvic floor.

The vulvar organs are all intimately blended with and go to form a part of the perineum proper. On each side of the vaginal orifice are the erector clitoridis, the bulbocavernosus and the transversus perineii muscles, and these with the levator ani make up, in large measure, the pelvic floor. The bulbi vaginæ and bartolinian glands are covered by these muscles with their erectile plexus of vessels and abundant distribution of lymphatics and nerves.

The erector clitoridis and bulbocavernosus muscles, with the transversus perineii, join on each side to constitute the ovate muscular vaginal orifice, and in their conjointed action perform a very important physiologic function in sexual congress, often underestimated or ignored. Their impaired function frequently underlies certain reflexive nervous conditions, distinctly pathologic, which are easily overlooked, but are the causes of much suffering and unhappiness.

The much-discussed, so-called perineal body has, in my opinion, misled some of our prominent authors into false positions, and caused great confusion and misunderstanding among physicians.

I have been criticised in emphasizing the muscular floor of the pelvis, and that I underestimate the importance of the variously distributed connective tissue fascia. This is not by any means my intention. The superficial perineal fascia, in its deep layer in the male, as well as in the female, covers and encloses the transversus perinei muscles, forming strong ligamentous transverse bands, uniting in the perineum, designated by Savage as ischio-perineal ligaments. The pubococcygei, acting in unison with the other muscles of the pelvic floor, draw forward and thus aid, not only in closing the rectum, but in holding both it and the vagina in the anterior curve, so important to be retained for the preservation of normal function.

A horizontal section made through the floor, just above the sphincter vaginæ, and posterior to the junction of the transversus perinei, shows the deeper fibers of the pubococcygeus, united in a loop behind the lower border of the rectum, holding it from its fixed point at the pubes, as in a sling. This loop is connected with the transversus perinei, bulbocavernosus, erector clitoridis, sphincter vaginæ and sphincter ani muscles by strong layers of connective tissue, the importance of which, for union and support, can not be readily overestimated.

On the posterior wall of the vagina, in its lower third, longitudinal muscular fibers are found external to the circular layer, and these intimately blend with the pubococcygeus, giving a firm support to the vaginal outlet, quite as the outer longitudinal fibers of the rectum unite with the deep layers of the sphincter ani. The physiologic action of the muscles, thus grouped, serve to draw the rectum forward toward the pubic arch, and this explains, in large degree, why the circular fibers of the vagina, left free to act in other directions, are intrafolded laterally, making in cross section an imperfect letter H, first pointed out by Freund in 1883. The intrafolding of the vagina at right angles to the vulvar outlet is very important in its relationship of support to the uterus and its appendages.

The surgical procedures which have been devised for the restoration of these structures are manifold, and many of them are in the highest degree ingenious, but too often confusing and unsatisfactory.

The study of their history is instructive and profitable, but the field is to me more tempting for review than it is to the junior practitioner, since these various procedures have been elaborated, for the most part, within the period of my surgical experience. I purpose, however, to limit myself to those only which have a bearing on the methods which I have especially commended.

My earlier masters, Marion Sims and Thomas A. Emmet, most ingeniously devised scissors with various curves and dextrously used them to denude the posterior V-shaped portion of the vagina which was thought advisable for coaptation. So exceedingly dextrous were these men that I have seen them pare back and forth a narrow ribbon from this portion of the vagina, leaving the dainty piece unbroken.

My late friend, Dr. Edward Jenks of Detroit, separated this portion of the posterior wall of the vagina as a flap instead of denuding with the scissors and then cut it away and sutured as Sims and Emmet had done. Not long prior to this I had begun the use of buried animal sutures in a considerable variety of wounds, and it occurred to me that, by adopting the method of Dr. Jenks, I could preserve the flap thus separated and coapt the deep structures by sutures buried beneath it.

I soon found that the line of division was not the mucous membrane from the vagina, as these authors had supposed, but the attenuated posterior vaginal muscle, often so thinned out as to be hardly recognizable. For obvious reasons the posterior vaginal fascia holds the vagina loosely to the subjacent structures and the separation is not difficult except when united by bands of cicatricial repair. By this division, it is not difficult to differentiate the levator loop and bring it with the ends of the separated transversi into easy inspection. A further dissection externally on either side of the sphincter ani makes the wound of sufficient size for easy manipulation. This permits the reconstruction of the perineal structures in a simple and easy manner.

With various unimportant modifications, this is the method which I have practiced and taught for more than a quarter of a century.

Finding that the catgut sutures did not always hold the parts in coaptation sufficiently long, I devised a lateral support by means of two or more disjointed pins, which united after their introduction, held the parts in juxtaposition after the manner of an ordinary safety pin. I had the good fortune to obtain tendon sutures

from the tail of the kangaroo which proved reliable and rendered the use of fixation supports unnecessary. Since this period I have used only chromicized tendon sutures with entire satisfaction. These have been, and may be, applied in a variety of manners.

The first step in the operation is to dilate the sphincter. The index and middle fingers of the left hand are introduced into the rectum and retained there until the end of the operation.

The septum is made tense by the retained fingers and a button-hole incision is made on the median line by either knife or scissors. I prefer a double-edged, pointed knife.

Through this opening I introduce a knife of special design. I am sure additions to our armamentarium should not be made without good reason, but this instrument adds materially to both ease and safety of dissection. The cutting part is something the size and shape of the little finger nail and is placed at an angle with the handle, so that when pushed in a direct line the edge is at an angle of about forty-five degrees to the part to be divided. The parts are made tense by the fingers in the rectum and the knife is guided so that neither rectum nor vagina is injured. The lateral dimpled depressions in the vagina mark the site of the separated retracted transversi. Even with a sharp knife these are divided with some difficulty. Elsewhere the separation is easy and is often made almost entirely with the fingers, dividing an occasional cicatricial band by scissors. The Emmet scissors serve admirably for the separation of the vagina from the vulva. The little lateral fold of mucous membrane on either side shows the inception of the original lesion. To these points the dissection is carried anteriorly. Thus the posterior third or more of the vagina is separated from its attachments quite to the crest of the rectocele.

This flap is held anteriorly by an assistant. A large curved needle, firmly set in a handle, with the eye near the point, carries the suture. The fingers in the rectum materially aid in guiding the needle. It is carried through the left side penetrating the transversus and levator unthreaded and withdrawn. Rethreaded, the needle is made to penetrate just above the vaginal junction with the rectum and then is carried through the right transversus, unthreaded and withdrawn. This makes the upper border of the upper stitch. The suture is centered at this point of fixation and held by an assistant. The suture is again carried by the needle parallel to the first introduction—about one-third of an inch below it; unthreaded, rethreaded with the opposite end and withdrawn. This makes a double stitch exactly like that of the cobbler, the needle serving as carrier of the suture from opposite sides. In this way three stitches are usually taken. When drawn on moderately tight, the widely separated structures are evenly coapted on the median line and are held in fixation.

The remaining tissues are united by a light, continuous running suture, best effected by a rather large-sized, full-curved Hagedorn needle. The distal end is fixed by a loop knot and the needle, carried deeply from side to side, places the suture at right angles to the long axis of the wound. Where drawn on, the tissues are evenly coapted in the median line, with no suture material in the line of union save where it crosses at a right angle to it.

I have called this stitch the parallel suture, since the needle is inserted parallel to the long axis of the wound. In this way the entire wound is easily and rapidly closed, the reconstruction being made so complete that the vulvar opening is entirely restored, even to the reformation of the hymen if desired.

When the laceration has been so extensive as to include the sphincter ani muscle and a portion of the rectum we have quite another problem.

The posterior vaginal wall is not thinned out as in rectocele. Quite the contrary, the vaginal muscle is contracted, often the vagina thick-walled. The rectum and vagina are separated quite as freely as in the incomplete form of the injury. This permits the reconstruction of both rectum and vagina by separately reuniting them with continuous sutures, care being taken not to penetrate the bowel or vagina by inserting the stitches from side to side from the dissected surfaces only. The rectal suture must penetrate the connective tissue of the bowel, here much thicker than in the free portion of the large intestine. The vaginal suture is given to an assistant and held forward. The rectal suture is held by the weight of a pair of forceps. The wound is now restored to conditions not unlike those of the incomplete rupture when ready to introduce the parallel double fixation sutures for the reunion of the transversi, and the operation is completed, as above described, only the separated retracted fibers of the sphincter ani muscle must be freed and sutured. The short wound in the median line is closed by a light-running buried suture, the wound dried and sealed with iodoform collodion.

IN RESUME.

By free dissection and the use of buried absorbable sutures, the parts are entirely restored to their former normal anatomic condition and physiologic function. Aseptically maintained, the repair is rapid and painless.

The urine should be drawn for the first days. The bowel is never allowed to become distended with hard fecal masses. In complete laceration, a large rectal tube of soft pure rubber should be used.

RESULTS.

I have within a few days seen a lady on whom I operated thirty years ago by the methods as above outlined. I since have operated several hundred times.

Recently a visiting surgeon, seeing the operation, asked our matron: "How large a percentage of Dr. Marcy's cases have failed of good results?" She looked surprised, but replied: "I do not know of a single case." "How long have you been in charge of the hospital?" "Over sixteen years." So seeming an unimportant operation has it become with us that a careful statistical table could be made only by an amount of research work not deemed necessary, but I am sure the reply of our matron is essentially correct.

DISCUSSION.

DR. A. H. GOELET, New York—I doubt whether the deep through-and-through suture would succeed in the hands of all who should attempt this operation. The objection is that it constricts the parts, cuts off the circulation and nutrition and often results in failure. I have tried every operation on the perineum, except the Tait flap-splitting operation, which I do not approve, and have abandoned them all for the Hegar-Martin operation in which the denuded surfaces are united by means of buried layer sutures of chromicized catgut. That has given me far better results than any other operation on the perineum and I now never have a failure. It seems to me a valuable point to avoid as much as possible handling the denuded area, and instead of sponging to keep a continuous stream of normal salt solution playing on the wound to keep the field clean. This will aid materially in securing primary wound healing.

DR. F. A. DUNSMOOR, Minneapolis, Minn.—One of the essential things brought out in the paper is that the reason for so many failures in repair of the perineum is that the sutures are not introduced properly; not that they fail to close up the denudation, but the result is not what we should wish it to be. If we are to get any real benefit from this operation in the vagina we must increase the depth of the vagina from the vulva to the region of the cervix, and narrow it from side to side, thus tightening up the relaxed walls. This can be done whether the freshening is made by the flap-splitting method or by any other plan, but it is extremely important that the sutures are passed horizontally and are not to be introduced from the margin of the vulva, then carried to an apex near the emergence of the cervix, returning by a corresponding oblique line to a point opposite that starting. In the latter case, when we tighten the sutures, we bring the upper part of the vagina down toward the lower, and the vagina is widened and shortened. As time goes on the posterior wall relaxes more and more, forming a rectocele. There is a way of overcoming the objection made by Dr. Goelet. If we introduce the sutures in two layers, beginning one-third of an inch inside the margin of the denuded wall on the right side and depress the middle of the denuded septum, emerge for half an inch, and then pick up the opposite side, to within one-third of an inch of left margin, repeating every one-third inch, we will make all the way down a backbone or thick septum. Then while passing the second layer of sutures, pass the needle in the first instance horizontally across to accurately adjust the wound margin. Next through the new body made by the first tier of sutures and include fascia and supporting muscles of each side. Alternate these two styles of sutures until the vulva is reached. The circulation is not cut off. Further, we get a more lengthened perineal body then by any other method, and a support for the rectum, thus correcting the rectocele and assisting the expulsion of fecal matter from the rectum; narrowing the vagina from side to side and increasing its depth. This operation on the perineum should have for its object the restoration of the normal supports of the perineal body and holding it up in a definite position. Dr. Marcy's method of reuniting the divided muscles by suturing at right angles to axis of vagina accomplishes the desired result.

DR. A. M. HAYDEN, Evansville, Ind.—I have made it a point to absolutely coaptate the parts without any wrinkling. I denude and take out the flaps as much as I want so as not to narrow the caliber of the vagina, and then use interrupted or continued catgut sutures, commencing at the lower border and putting them in back and forth. After I get the muscle all coapted nicely, I suture the vaginal mucous membrane from the upper part down to the skin without catching the muscle at all. The skin of the perineum I suture in the same way with superficial sutures. I use two or three layers of sutures to coaptate all the parts and bring them together nicely.

DR. HANNAH GRAHAM, Indianapolis—I have used a method of repairing the perineum for the last four years, but have not published it. I insert a Kelley tenaculum on each side and with the scissors cut straight across. I slip the finger into the rectum and with an ordinary scalpel I make a sort of bib-shaped denudation. Instead of cutting down and making a V-shaped denudation, I denude perfectly straight. Then I pull down the center point of the upper edge of the denuded area to about the site of the fossa navicularis, where I unite it on each side with a continuous catgut suture, after having united the edges of the transversus perinei with a buried suture. I have used this method in cases of prolapsed uterus and it has held the uterus up very well. The perineum does not stretch out as I have seen it do with other methods, and I have examined patients who have had as strong a perineum after four years' standing as immediately after the work.

DR. R. H. GIBBONS, Scranton, Pa.—If Dr. Marcy's stitch is properly introduced and fixed it can not cause choking of the muscular structures or vessels; nothing but good can happen. I tried it on many occasions and it was the fault of the absorbable material that I gave it up and also because I went back to my first love, Dr. Emmet's method. I can do this operation better than any other and I believe it meets every indication. Those who talk of the operation of exposing the muscle where it is torn, Reed, Harris and others, claim that Emmet's operation will not do what he claims for it. If the denudation is properly made all the separated fibers of the muscle are exposed, and if the stitches are properly applied all the parts must be brought into apposition. If you pass the suture downward from the very apex of the denudation and bring it down into the muscle, you catch the principal fibers of the muscle, and passing it down, the lower fibers are caught, thus bringing all the fibers in apposition. There is no operation that can improve on the Emmet method if it is learned from Emmet or his students. Dr. Marcy's operation is the first of what are termed modern operations and he is entitled to credit for having formulated a method of introducing a buried absorbable suture that fixes the parts and keeps them fixed without strangulation. Dr. Graham has introduced a very practical point, the idea that the first stitch usually throws the apex of the rectocele high up where it should be after the method of Andrews of Chicago.

DR. A. H. GOELET, New York—I overlooked a point in my previous remarks which is very important in obtaining primary wound healing, and that is to keep the wound dry. Many practitioners who are compelled to do this operation are obliged to practice without the aid of a nurse and who must care for the patient after the operation, can avoid the necessity of coming back a number of times a day to catheterize. I have had made a rubber perineal shield which has a little tongue that is inserted into the vagina and catches under the urethra forming a gutter for the urine. It is strapped with adhesive plaster to the thighs, so that when the patient urinates the urine passes down the gutter into a bedpan beneath without soiling the perineum. The perineal wound can then be dressed with gauze beneath this shield and can be kept dry just as any other wound. This shield is not, of course, necessary when the services of a skilled nurse is obtainable, but it adds greatly to the comfort of the patient if repeated introduction of the catheter can be avoided, and I regard it important to prevent contamination of the wound by the urine.

DR. WALTER B. DORSETT, St. Louis—I object to the word denudation. It implies very little. Usually when we speak of denudation we mean that we take off the mucous membrane. If we are going to make a perineum that is going to be of any service, whether for rectocele or simply for a relaxed outlet, we have in the first place a stretching of the mucous membrane, together with a stretching of the vagina, a stretching of the circular muscle fibers of the vagina; therefore, in order to repair that properly we must do something more than a simple denudation; we must take out sections from the vagina. I commence on one side and cut deeply until I get beneath the vagina, then I take hold of it with a pair of forceps, pass my fingers up and dissect the vagina from the rectum. Then I begin at the upper angle and introduce the sutures. (Dr. Dorsett illustrated his technic.) When I draw on the upper suture I lift up the whole perineal body. If we simply denude, as I have seen many surgeons do, we fold the connective tissue together, and if we get any union at all it is only by slight adhesions, and it is of absolutely no benefit. The operation I do is essentially that given us by Emmet.

DR. J. H. CARSTENS, Detroit—Concerning the denuded surface, what is there in the first place? A ruptured perineum, torn fascia everywhere and a muscle that is torn completely through. If there is an Emmet suture put in, I do not care which way it is pulled, on being drawn together it puckers up. One can not do anything different with a large suture. One can not get the parts accurately together. (Dr. Carstens then illustrated his method on the blackboard.) I put in thirty or forty stitches and build up a perineum that is as near like the original perineum as I can make it. Ideal surgery is to use the buried suture, and not the big *en masse* suture, which is a catch-as-catch-can suture. If you hit it, all right; if not, then you don't.

DR. A. PALMER DUDLEY, New York—What is the pelvic floor? The levator ani muscle; the transverse perineal muscle from the ramus around to coccyx and to anus. What is split? The perineum. What is the perineum? The two halves of the

levator ani muscle. You get them together to have a returned sphincter action. I am going to reverse the order of operation on the perineum entirely. The muscle is surrounding the vagina; it is ruptured. If you make Emmet's operation where is the fixed point, and from where are you drawing tissue? You are drawing movable vaginal tissue. If you will do a proper operation you must denude and use some suture which will unite the muscle end to end and not to cellular tissue or mucous tissue. (Dr. Dudley demonstrated his points on the blackboard.)

DR. H. O. MARCY—The premises I took at the opening are verified. There is as yet an entirely unsettled idea as to what we should do in restoration of the perineum. Two or three things should be settled on here and now, and the discussion aids in elucidating this matter. I omitted much in the reading of my paper in order to save time. The whole idea is that we must reunite the ruptured muscles in the median line, where the interdigitation of the transversi with the levatores make the so-called perineal body. How this can best be effected is the problem. That which I claim to be of advantage is, that in dissecting up the posterior two-thirds of the vagina we are enabled to reach and reunite the separated structures. Into the vulvar opening, thus restored, we suture the thinned-out vaginal muscle sheath, much as the tailor the sleeve into the arm hole of a coat. In this reconstruction, all the tissues are utilized. Nothing is dissected away. The process of restoring the soft parts is simple and easy. The operation is really done in half the time I am discussing it. Dr. Goelet's criticism is well taken if too much force is applied in the constriction of the sutures. Retention at rest of the reconstructed tissues without constriction is of vital importance in the application of all buried sutures. Continuous suturing is safer than interrupted stitches, since the force must act equally on every stitch. The wound must be protected from the urine. With the assistance of trained nurses I have operated on several hundred cases without a single failure.

THE REPAIR OF CYSTOCELE

BY UTILIZATION OF THE ANATOMICALLY FIXED POINTS IN THE ANTERIOR VAGINAL WALL.*

E. REYNOLDS, M.D.
BOSTON.

A year ago I read before the American Gynecological Association a paper on this same subject, setting forth what I believed to be somewhat new and important points in the repair of cystocele. My object in this present paper is to restate the facts and conclusions then brought forward, with the developments which have been obtained in another year of work, and supported by the ultimate results of the cases then reported.

We hear nothing nowadays of new methods of operation in the repair of the lacerated cervix, and for several years have heard nothing of new methods in the repair of the perineum. These operations are satisfactory. The anatomic principles on which they were founded are well worked out, and there is little more to say about them, hence the silence. The third great plastic—the operation for the repair of cystocele—stands on very different ground. New operations are still proposed almost as frequently as in the early days of plastic operating, and we should most of us agree at once that no one of all these many operations and no group of operations has overcome the others and become accepted. I believe that this uncertainty and unsatisfactory state of the cystocele operation has been due to our failure to comprehend until recently the anatomic conditions, an observance of which must necessarily underlie all successful repair, i. e., I believe we have been in the habit of puckering up the loose tissues by merely empirical methods, and have not searched intelligently for the anatomic supports of the wall and sutured them directly to each other. If the operation is ever to be put on a rational basis, the first step in the process must be an inquiry into the anatomy of the anterior vaginal wall; and to state the results of such an inquiry is the first purpose of this paper.

The structure usually spoken of as the anterior vaginal wall is really two structures and is composed of the loose, elastic, non-resistant posterior wall of the bladder in combination with the strong sheet of muscular and connective tissue which forms the true anterior vaginal wall, but which may be here called for distinction the vaginal plate of the anterior wall. The vaginal plate is but loosely attached to the bladder, is normally firm, non-distensible, and strongly fastened to supporting tissues on all sides. It is attached at its lower end to the tissues immediately behind the pubic bone. At its upper end it is inserted by its central portion into the cervix and, which is of more moment, by its lateral corners into the important masses of connective tissue and unstriped muscular fiber which extend through the lower portions of the broad and uterosacral ligaments to find their attachments in this vaginal plate and in the supravaginal cervix. By its lateral edges throughout it is attached to the pubococcygeal and the allied group of transverse muscles which here find their only insertion into the vagina. To recapitulate: In the normal state these strong supporting structures are inserted into the four edges of the strong sheet of muscular and connective tissue which we know as the anterior vaginal wall, and are by it bound together into a firm floor which supports the bladder, the whole being in its turn reinforced, but only reinforced, by the support of the posterior vaginal wall below it.

This being the normal anatomy of the anterior vaginal wall, we should next inquire into the anatomic conditions which prevail in cystocele, and this is perhaps best reached by considering the conditions which are found during and at the close of labor.

It must be remembered that the posterior vaginal wall is mainly, and the anterior wall is wholly, supported by structures springing from the anterior half of the pelvic bones, hence it happens that while the walls themselves are exposed during labor to almost equal distending forces, the supports of the anterior wall are subjected to but little strain, and may even be relaxed by its forward distension during labor, while the supports of the posterior wall are subjected to great strain during its backward and downward distension, and in the concluding stage of labor the posterior wall and its attachments receive almost the whole strain of the advancing head.

The result is that the distended posterior wall is exposed to laceration, while the anterior wall, though always distended, is seldom lacerated. At the conclusion of labor, then, the attachments of the anterior wall are intact, but the wall itself between the attachments is greatly distended and therefore sags forward and downward under the influence of gravity. The natural result is that when the support of the posterior wall has been lost the vaginal plate often fails to recontract during involution, loses resiliency, and no longer supports the bladder, though its edges are still inserted into the intact supporting structures. This is, then, the anatomy of cystocele, and the condition is, in effect, a hernia of the bladder through the foramen formed by the attachments of the anterior vaginal wall, carrying before it as its

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*Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Obstetrics and Diseases of Women, and approved for publication by the Executive Committee: Drs. A. Palmer Dudley, H. P. Newman and J. H. Carstens.

distended and overstretched covering the vaginal plate of the anterior vaginal wall. A persistence of this condition is, in my mind, the anatomy of cystocele, but whether this theory of its causation be right or not, it is a fact, as anyone may convince himself by examining a series of cystoceles, that the central portion of the vaginal wall has lost its elasticity and becomes thinned and non-resilient; the weakening process being most marked at its center, and decreasing until at the upper and lower extremities and also at the lateral edges, the wall is still thick, strong, and held firmly in place. It is, then, this hernial condition which we are to repair.

It is an universally conceded principle in other hernias that an operation which pushes back the distended sac and unites its surfaces to each other will be inferior to an operation which excises the sac and brings together the actual raw edges of the supporting tissues which surround it. I believe that we shall find that the essential weakness in the many operations proposed for cystocele lies in our habit of merely refreshing the vaginal surface by superficial denudations and so uniting only the already overstretched and comparatively useless tissues of the hernial sac, instead of searching, as in other hernias, for the insertions of the supporting muscular attachments and uniting them directly to each other after an excision of the overstretched tissues. I believe that if this is done the actual shape of the excision is carried into the unthinned portions of the wall, and that the direction of the sutures is such as to bring the supporting structures together. The actual excision of a large portion of the anterior vaginal wall sounds at first like a far more severe affair than a denudation, but even if that were so, we have learned not to be afraid of severe operations for adequate cause, and, as a matter of fact, its technic is so exceedingly easy, simple and rapid that I do not think that any man who has even once performed the operation will look on it as being, in fact, more severe.

One further piece of anatomy should, however, be here referred to, since it is frequently of essential importance to a good repair, viz., the anatomic conditions present when cystocele is complicated by descent of the cervix. Even when this complication is present the conditions insisted on above will be found but little altered. The lateral and lower attachments of the vaginal plate will be found non-stretched, and even its upper lateral corners are, in point of fact, but little displaced, i. e., their supports are but slightly stretched and require for the replacement of the upper end of the vaginal wall no more than a slight shortening of their ends, but it is here essential to good repair that the cervix should be extensively freed from the central portion of the upper end of the anterior plate and from the bladder as well, both to prevent further tendency toward displacement, and also to permit the cervix to move backward and upward into its original position before the sutures are brought together. The condition is still a hernia of the bladder, though complicated by slight overstretching of the supports of the upper lateral corners, and by a traction on the cervix which must be released as one essential step in the operation.

While this paper was in process of preparation I was much interested in reading an article by Hirst of Philadelphia in which the importance of bringing together the intact lateral supports is detailed, although the necessity for excising the weakened portion of the vaginal plate is not recognized. I was still more gratified by a paper[1] by Dudley of Chicago in which my former paper is referred to most kindly. In it the principles then enunciated are adopted as the necessary foundations for the repair of cystocele, the necessity for so shaping the excision as to throw the cervix well backward is described more forcibly than I had heretofore succeeded in doing, and an operation of Dr. Dudley's own devising is described. I can not help thinking that the shapes of both Hirst's and Dudley's operations are a little unnecessarily complicated. I believe that any operation which is to be successful must be so shaped and the stitches so inserted that both the lateral and upper and lower supports of the anterior vaginal wall will be utilized, i. e., so planned that the broad ligament attachments of the upper lateral corners and the firmly supported lower end of the wall will be brought together, as well as the insertions of the transverse muscles into its lateral edges. I think that if Watkin's operation or Emmet's latest operation were made excisions instead of denudations they would often fulfill well the anatomic conditions. I think that the operation which I have to report, as having been successful in my own hands, is, so far as the shape of the excised portion of the wall is concerned, merely one of many which might be devised, and probably one of many modifications which should be used for the differing forms of cystocele.

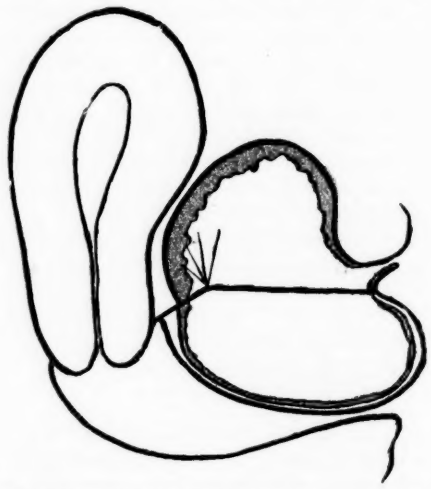

Fig. 1.—The heavy straight line shows diagrammatically the line of the repaired anterior wall.

In short, I do not think that any of us have as yet evolved an operation which is perfect in its details, but, although I have been trying during the past year several modifications in the shape of the excised areas and the insertion of sutures, I have so far found none which has yielded me as good results as the operation which I reported last year, and have now to describe again.

Its main features of value are that it throws the cervix far backward into its original position and that while it shortens the vagina enough to restore the upper and lower supports to their original position, it is essentially a transverse operation.

The anterior wall having been exposed, preferably in Sim's position, the points AA (Fig. 2) at the sides of the cervix are marked by tenacula or tissue forceps. The point C, the highest point in the anterior wall which is still entirely intact and unthinned, is seized with tissue forceps and pushed upward along the median line until it is on the stretch. The points BB, situated laterally exterior to AA, are then selected as those which can be drawn by tenacula or tissue forceps into apposition with

1. THE JOURNAL A. M. A., April 4, 1903, vol. xl., No. 14.

C on the median line, and are similarly marked. The crescentic area indicated in the diagram is then lightly marked out with a knife as a guide in the excision of

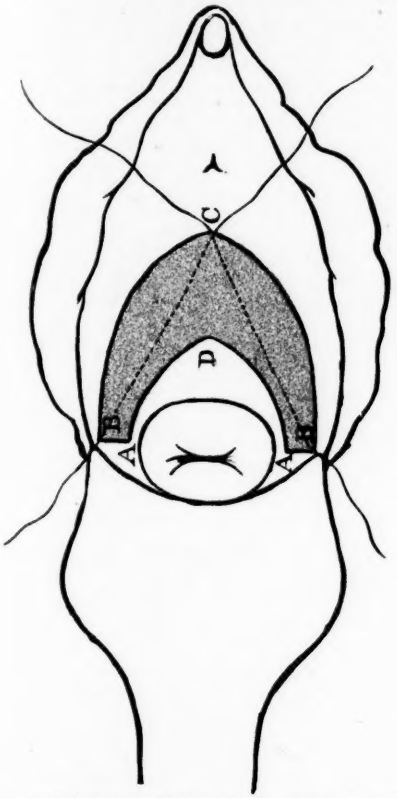

Fig. 2.—The excision complete and the primary sutures inserted.

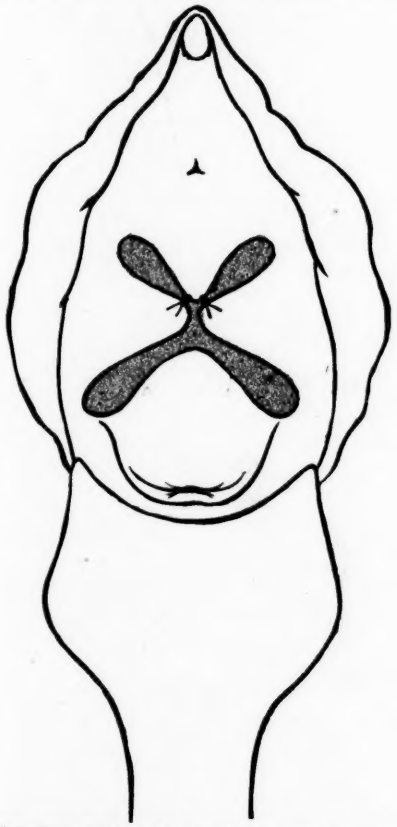

Fig. 3.—The first suture tied and the cervix thrown strongly backward.

the weakened portion of the wall, the point D being not more than half an inch in front of the cervix. Its exact position is unimportant. A short transverse incision at C is then carried through the vaginal wall until the point of cleavage between this wall and the bladder is found. The handle of the scalpel is then pushed upward, easily separating the vaginal and bladder walls until it is seen to reach the inner edge of the crescent at D.

The vaginal wall is then, as a matter of convenience, divided along the dotted line CD, and the vaginal and bladder walls are then rapidly and easily separated by the handle of the scalpel over the whole of one lateral half of the area marked out by the knife. The separated vaginal wall is then removed with the scissors and the process is repeated on the opposite side, leaving the uninjured bladder wall exposed over the whole crescentic area. The bladder is then separated from the supravaginal cervix and muscular fibers of the broad ligaments to the level of the internal os, a point the importance of which can hardly be overestimated, more

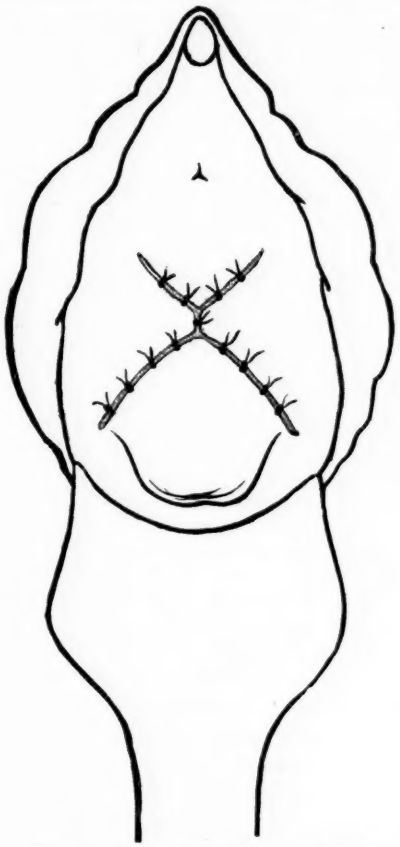

Fig. 4.—The operation completed.

especially in the presence of descent of the cervix. The points BB are next connected with C by sutures as indicated in the diagram, at C the needle being made to pass deeply through the whole thickness of the vaginal wall, and at B still more deeply in order to catch the fibers of the lower portion of the broad ligament; these sutures having been tied, the incision falls into the shape shown in the third diagram; the remainder of the wound is rapidly whipped together with a running catgut suture, the needle passing at each insertion through the whole thickness of the vaginal wall, and the operation is thus completed, the lines of union lying in the form shown in the fourth diagram.

As the result of this operation, the cervix is thrown markedly backward and the anterior vaginal wall is therefore in appearance rather lengthened than shortened, but its attachment has been transferred to the firmest supports of the vaginal vault, the bases of the

broad ligaments; the uterus has thereby been relieved of weight, and is found to be higher rather than lower; and the wall, as a whole, is drawn upward and forward behind the pubes in a way which affords a surprisingly firm support for the base of the bladder. (See straight lines on Fig. 1.) It might appear at first sight that a cavity would be left between the unaltered bladder wall and the line of union of the vaginal wall, but in practice the contractile bladder wall at once shortens itself to its new position, and no such cavity is left. The only vessels divided are situated in the vaginal wall, and bleeding is consequently controlled by the sutures. In practice I have had no trouble from this source. The only objections to the operation which I have been able to find so far are that in case of failure of union a secondary operation would be more difficult than after a simple denudation, and that it is not well adapted for performance at the same sitting with the repair of an unusually deep laceration of the cervix. An ordinary trachelorrhaphy does not interfere with it.

Last year I reported immediate good results in five cases, the ultimate results of which I have now looked up. I have since performed it with uniform satisfaction in many more recent cases.

CASE 1.—Mrs. A. D. P., aged 38, is the mother of three children, the youngest aged 3. The heart, lungs and urine were normal. Uterus was heavy and retroverted. There was moderate cystocele with considerable rectocele. Operation was performed Jan. 24, 1902, in the presence of Drs. Hubbard, Wadsworth and Allen. The cystocele was treated by the method described. Perineorrhaphy and ventrosuspension were done with exceptionally good results. To-day, fifteen months after operation, the perineum has yielded a little, but the anterior wall is nevertheless as firm as at the end of the operation.

CASE 2.—Mrs. M. Mc., aged 52, is the mother of two children, youngest aged 20. The heart, lungs and urine were negative. There was cystocele and rectocele. Operation was performed Jan. 30, 1902, in the Free Hospital for Women. Cystocele treated by method described. Perineorrhaphy was done and the perineal result was good. Operation on cystocele was exceptionally good. Has moved and been lost sight of; when last heard from result was unchanged.

CASE 3.—Mrs. N. M. B., aged 56, has ten children, the youngest aged 21. She presented no constitutional symptoms. There was cystocele with rectocele. Operation was performed March 4, 1902, in the Free Hospital for Women. Cystocele operated on by above method. Perineorrhaphy was done; the results were good. Seen April 30, 1903; result admirable.

CASE 4.—Mrs. A. D. W., aged 65, has five children, the youngest aged 30. Heart, lungs and urine were normal. Fundus was in normal position, but there was a greatly elongated and supravaginal cervix with prolapse of the anterior and posterior vaginal walls. Operation was performed March 18, 1902, in the Free Hospital for Women. The cervix was amputated. Cystocele operated on by above method. Perineorrhaphy was done. The result is good. Uterus outside of vulva. This was a large, stout, aged woman who has been doing hard work, whose perineum has yielded utterly as well as the cystocele. It is probable that no plastics would have been enough and that an abdominal operation should have been performed in addition. The typical cystocele operation was further complicated in this case by amputation of the cervix and consequent impairment of the whole vaginal vault.

CASE 5.—Mrs. E. K., aged 49, is the mother of two children, the youngest aged 26. She entered the Free Hospital for Women with pain about an encysted hydrocele of the cord. The heart, lungs and urine were normal. The uterus was retroverted and prolapsed with cystocele and rectocele. Operation was done March 13, 1902. Closure of inguinal ring and ventrosuspension were done by Coley's method. On March 25 cystocele was treated by above method. Perineorrhaphy was done and there were good results all around. She has grown enormously stout since the operation, but when seen, April 30, 1903, had an absolutely good result.

In all these five cases the anterior vaginal wall arched upward and forward in front of the cervix at the end of a year just as it had done immediately after operation.

DISCUSSION.

DR. C. O. THIENHAUS, Milwaukee, Wis.—The methods of operation for cystocele differ according to the malformations present in the individual case and the forms of the cystocele. Take, for instance, a woman of 50, with a prolapse of the uterus together with cystocele, when the vaginal mucosa is thinned by overdistention, for such cases the operation advised by the author to-day is certainly not sufficient. These cases must be treated as a hernia, and last year I advocated the use of the muscular wall of the uterus as a protection against the pressure of the abdominal contents and the bladder. Free the bladder from the elongated cervix and push it up so that it disappears like a ball behind the symphysis and then fix the entire anterior wall of the uterus to the vagina, thereby supporting the bladder by the uterus. This will prevent the descent of both the bladder and uterus. Some have even found this not sufficient, but they fix the posterior wall of the uterus to the vaginal wall, thereby leaving the uterus in the vagina. Reynolds' method is a good one for certain cases, but in every case where there is retroversion of the uterus and the uterus lies in the axis of the vagina, what will happen? The uterus descends more and more with or without elongation of the cervix and the external os soon appears in the vulva. At the same time the bladder is naturally drawn down. Therefore, to correct this condition we must do something for the correction of the causative agent, that is the retroversion of the uterus, and for these cases in younger patients I have advocated, after freeing the bladder and pushing it up as above cited, the vaginal suspension which leaves the uterus in the small pelvis where it belongs, and does not drag it up into the abdominal cavity and against the abdominal wall (as an abdominal suspension), where it does not belong and has no place under normal conditions.

DR. J. WESLEY BOVÉE, Washington, D. C.—The treatment given by Dr. Reynolds is practically correct. We should treat this hernia as we do every other hernia, but we have conditions here which we do not have in the ordinary hernia. He said the operation draws the cervix back, but my impression has always been that any traction on the broad ligament anteriorly tends to drag the cervix forward. I think that the raising of the bladder and the high suturing in front is one of the strong elements which tends to prevent the cervix from taking an anterior position. I practice the method of separating the bladder, raising it and suturing the fascia laterally. I aim to do what I think he fails to do, to push the cervix back. My belief is that it is a better method to put all the sutures transversely and none of them anteroposteriorly. W. H. Byford taught us that the cervix must not be brought within less than 2¼ inches of the posterior surface of the symphysis. And I know that men who are less skilful than Dr. Reynolds in doing this plastic work will occasionally pull the cervix forward by improper traction in that direction if the sutures are placed in the broad ligament.

DR. E. REYNOLDS—I wish to express my interest in Dr. Bovée's criticism and to express my opinion that very much to my own surprise the effect which is produced by these sutures is a transverse narrowing and an elongation rather than a shortening of the anterior vaginal wall. I think I know why this is, but could not give an explanation briefly enough to be proper here. However, I do not care what shape of denudation you make, nor how many sutures you put in, nor how, if you will only get rid of the hernia after a rational method by complete excision of the hernial sac and direct suture of the ends of the undistended tissues.

Flies.—In all diseases in which infection occurs through the alimentary tract, flies should be considered as important carriers of the infection, until this possibility is absolutely disproved.—*Brooklyn Med. Jour.*

REPAIR OF LACERATIONS OF THE CERVIX UTERI.

AN INVESTIGATION AS TO THE PROPER TIME FOR THE OPERATION.*

DANIEL H. CRAIG, M.D.

Surgeon to Out-patients, Free Hospital for Women; Assistant in Clinical Gynecology, Tufts College Medical School; Editor Annals of Gynecology and Pediatry, etc.

BOSTON.

The following paper embodies the conclusions derived from an investigation covering one year and five months. At the outset all preformed opinions were relinquished and a true spirit of unbiased investigation prevailed. Realizing that it is far easier to teach one wholly ignorant than to controvert preformed opinions, I placed myself in the attitude of a beginner. At the outset I was a partisan of certain operative procedures and certain methods of technic, but this investigation has shown me the narrowness of this attitude. The indications for any certain procedure or technic are inherent in the individual case, not in the predilection of the operator. It is, then, a modest following of the example of Herodotus in that it is "a setting forth of investigation."

As a basis of my study I carefully tabulated the results of one hundred tracheloplastic operations performed at the Free Hospital for Women. A majority of these operations were trachelorrhaphies. This number was selected, as the proportions also represent percentages. Considering two years as a minimum allowance in which to observe the ultimate results of the operation, including its effects on subsequent pregnancies, I began at Jan. 1, 1900, and worked back until replies were received from one hundred women.

So difficult is it to trace these nomadic patients that my one hundred include cases in which from two to five years have elapsed since the operation. Reporting cases under two years would easily have enabled me to tabulate results of several hundred cases, but would have lessened the actual scientific value of the deductions.

My first desire was to prove tracheloplasty a necessary and justifiable procedure. I use the word tracheloplasty, as suggested by Newman in 1898, advisedly, as I distinctly disclaim partisanship to any one procedure.

To consider an operation necessary, symptoms must exist which fail of relief by palliative treatment. To be justifiable, it must relieve these symptoms without endangering the patient's future welfare to a greater extent than does the disease, or it must protect her against a presumably more serious sequel of the abovementioned symptoms. Except in very exceptional cases, tracheloplasty should be resorted to only after all possible improvement has been achieved by palliative treatment, and this failing, if the operation accomplishes the desired relief it is fair to assume that the operation was necessary. In practically all of these one hundred cases competent palliative treatment had been employed in our out-patient department.

To be justifiable, it must relieve the symptoms, local, referred, and so-called reflex, without causing future sterility, miscarriage or dystocia. Another justification exists if it can be shown to act as a prophylactic of cervical carcinoma.

My first step, coincidently with an extensive research of all reliable recent and much antequated literature on the subject, was the sending of a circular letter to ex-patients requesting answers to the following questions:

THE QUESTIONS ASKED OF EX-PATIENTS.

1. Did the operation relieve your suffering?
2. Have you given birth to any children or had any miscarriages since the operation?
3. How many and when?
4. Was your womb injured by any of these births?
5. If so, how?
6. What is the name and address of the physician who attended you in each confinement since the operation?
7. Have you had any womb trouble since the operation? If so, please state the nature of the trouble.

The following is a summary of the answers received:

QUESTION 1.—Did the operation relieve your suffering? Complete relief resulted in 78 (78 per cent.) cases. Great relief followed in 11 (11 per cent.) cases. No benefit accrued in 11 (11 per cent.) cases. No patient was made worse by the operation. We are accordingly justified in stating that in properly selected cases a properly selected procedure is here devoid of danger; that it is followed by beneficent results in 89 per cent. of the cases. Eighty-nine per cent. of cure or great relief justifies the operation, but this percentage can be materially raised by a more discriminating selection of cases, more thorough palliative preparation and improvement of technic.

QUESTION 2.—This question regarding subsequent pregnancies sought a two-fold enlightenment, namely, does tracheloplasty predispose to sterility or to miscarriage? There were thirty-seven pregnancies subsequent to the operations and of these 24 (80 per cent.) went to full term. Whether any of these 13 (20 per cent.) miscarriages were procured I was unable to learn. Probably a few were. Twenty-three of my 100 women were past the child-bearing period or were widows, which elevates the percentage of pregnancies from 37 per cent. to an actual 49 per cent. Therefore, a proper tracheloplasty does not engender sterility. Moreover, accurate determination of this point is impossible, as most women having undergone one operation, the direct result of injuries incident to parturition, will by every means short of sexual abstinence avoid the possibility of another pregnancy, and such pregnancy occurring will still seek to avoid an operation by seeking early abortion. Twenty per cent., undoubtedly including some procured, is too small a percentage to justify the statement that tracheloplasty predisposes to miscarriage.

QUESTION 3.—This proved almost entirely irrelevant, most ex-patients having had but one child. This fact is due to my receiving more answers from recently operated women than from those of more remote date.

QUESTIONS 4, 5 AND 6.—These questions regarding injuries, their nature and the accoucheur can be considered together, as they coincidently led to much investigation. Only 4 patients were aware that they were relacerated; definite negative answers were received in 13 instances; 20 failed to answer the question. The fifth question (if so, how?) was irrelevant. Each accoucheur was addressed through a circular letter. All letters reached their destinations, but only 16 of the physicians took the trouble to furnish me with data. On the other hand, several went to great trouble, even visiting and examining patients for me, and to all who answered I wish to express my thanks.

The questions were:

THE QUESTIONS ASKED OF ACCOUCHEURS.

1. Did the cervix dilate easily?
2. Was the cervix relacerated?

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Obstetrics and Diseases of Women, and approved for publication by the Executive Committee: Drs. A. Palmer Dudley, H. P. Newman and J. H. Carstens.

3. If a laceration occurred should you estimate it as of the first, second or third degree?

Fourteen of sixteen answers told of easy dilatation of the cervix and in 3 instances it was "very easy." In 2 others no dystocia existed, the cervix behaving like that of a primipara. The cervix was relacerated in 8 cases, not relacerated in 7, and in 1 case the physician did not know. Of the 8 relacerations 5 were slight, 3 were of the third degree and in 1 the degree was not recorded. While these numbers are too small to justify broad deductions they at least show that relaceration can not be justly exploited as a serious contraindication when definite indications for tracheloplasty exist.

QUESTION 7.—Sixty-seven women (67 per cent.) have after the lapse of from two to five years been entirely free from "womb trouble." Nineteen of these have sustained labor or miscarriage without recurrence of symptoms. In 8 cases a subsequent labor or miscarriage determined a recurrence of former symptoms. By extra investigation or personal examination I have ascertained that 12 of the 33 not permanently cured owe their symptoms at present to adnexal lesions, fibroids, etc. There has been no instance of malignancy. In 5 instances the recurrence of pelvic symptoms was due directly to traumatism, and, lastly, in 7 cases I thought it possible that the technic might have been faulty. Thus ruling out the 12 non-cervical and the 5 traumatic cases our percentage of recurrences is reduced to 16. Therefore, in properly selected cases a proper plastic operation is capable of being permanently curative, exclusive of relaceration, in 84 per cent. of the cases.

Another fact brought out is that women past 35 are more permanently benefited than those younger. I consider the reason for this to be the fact that they do less hard work than younger women; their children have outgrown the age of being constantly lifted and carried; they are more temperate in all things, including sexual relations, and they seldom have children after the operation at this age.

Having satisfied myself that a proper operation after proper palliative preparation was curative and justifiable, I turned my attention to its prophylactic influence as regards cervical carcinoma. The literature is meager and contradictory, and afforded me no help.

Not facts but locality regulates the expressed opinion as regards the influence of cervical lacerations in predisposing to cervical carcinoma. American authorities so unanimously agree that local traumatism predisposes to future malignancy that the exceptions but serve to prove the rule. In Europe, especially in England, the statement should be exactly reversed.

Laceration and its sequelæ is, we know, not the sole cause of cervical carcinoma, but as we do not yet know even the nature of the remaining factors, we are greatly handicapped in tracing a relation of cause and effect. I determined to learn whether women having had successful tracheloplastic operations were more exempt from cervical malignancy than other women. To this end and also to learn their views regarding relaceration of the repaired cervix, fifty of our most distinguished gynecologists were addressed. In addition, our resident house surgeon, Dr. Bradley, kindly investigated seventy-eight cervical carcinoma cases treated in the Free Hospital for Women. These two lines of investigation cover an enormous, but obviously unknown, number of cases.

After the most careful search of all available records and literature in not a single instance was a history of a previous tracheloplastic operation found in a carcinomatous cervix. Patients contemplating a serious operation on the pelvic organs seldom fail to mention at the very beginning of an anamnesis the fact of a previous operation and few surgeons fail to inquire regarding such. The absence of such history is emphatically significant.

Nearly all specialists addressed responded promptly, a few even writing very instructive letters, and to them all I tender my hearty thanks and appreciation. The following questions were asked:

THE QUESTIONS ASKED OF SPECIALISTS.

1. In what percentage of cases should you estimate that a relaceration of a repaired cervix occurred?

2. What percentage of the total number of cases of cancer of the cervix you have observed should you say had an unrepaired laceration of the cervix?

3. What percentage of the total number of cases of cervical cancer observed by you should you say had undergone previous operations for such lacerations?

The infinite diversity of the answers obtained, defying tabulation, shows that thirty-five years after Emmet's classic paper much need of scientific investigation in this field still exists. The attitude of many of our ablest men also shows that much injury has been done by classing plastic operations as minor surgery. A few admitted the relegation of such cases to their assistants. As a matter of fact, plastic operations require greater technical address than any other. They are less sensational, and to many less interesting than the major operations, but there are many good abdominal surgeons for each good plastic operator.

QUESTION 1.—This elicited answers as follows: Six men express the opinion that no primiparous or repaired cervix ever undergoes the dilatation incident to parturition without at least a slight laceration; the same number state positively that they have never known relaceration to occur after a properly executed operation. Between these extremes are all grades of opinion. Many men of unassailable wisdom and experience answered: "I do not know." Many others stated that they had no data, but that their replies were mere guesses, and, therefore, though fully appreciated, they are useless. From information gathered from all sources, I am convinced that a properly repaired cervix reverts to about the condition of the primiparous cervix as regards laceration. Improper repair may not only predispose to a relaceration worse than the original tear, but like certain unrepaired lacerations, may cause serious dystocia, through containing an excessive amount of cicatricial tissue.

QUESTION 2.—What percentage of cancer cases had unrepaired lacerations? This brought out several replies of: "I do not know." The vast majority estimate them at 75 to 100 per cent. Several obviously confused the question with that of the occurrence of cancer in the nulliparous cervix, and others were stated to be guesses and therefore valueless. Their answers, in connection with my coincident investigation, convince me that at least 90 per cent. of the cases of cervical carcinoma occur in previously lacerated cervices remaining unrepaired. Laceration is by no means a necessary antecedent, nor must carcinoma necessarily follow laceration. If laceration plays an actual etiologic rôle, it is merely as one of an unknown number of factors.

QUESTION 3.—This question, regarding previous tracheloplasty, achieved the nearest approach to unanimity. Fourteen of the gynecologists declared positively that such operation had not been performed in any case observed by them. Many left the question unanswered

and others, confusing the question with that of cancer in the nulliparous cervix or stating that they were guessing without reliable data, estimated the percentage at from 3 to 25. One man stated definitely that cervical cancer was preceded by a tracheloplasty in 6 cases out of 460.

We all know that carcinoma occurs, whether or not as the result of traumatism, in the nulliparous cervix, and it is inconceivable that any tracheloplastic procedure should render a cervix less susceptible to cancer than one never subject to any traumatism. Therefore, I believe that these answers, in connection with the above-cited results of my investigation of all available cases and literature, at least warrant the conclusion that the properly repaired cervix is no more liable to cancer than the nulliparous cervix, and that tracheloplasty is therefore prophylactic of cervical carcinoma. Granting that the operation is justifiable, when indicated, when should it be done?

There are unquestionably a vast number of cervical lacerations which cause absolutely no symptoms and do no harm and in which operation is, hence, not indicated, except perhaps as concomitant of other plastic vaginal operations. Moreover, although the statement has been challenged, it is a fact that many very considerable lacerations of the cervix heal entirely or nearly so by first intention. It is my firm conviction that the cases which heal primarily are not the result of chance, but heal because kept clean and not too badly bruised. Three cases observed at the out-patient clinic are interesting in this connection. All three showed unmistakable evidence of healed cervical lacerations, all denied a tracheloplasty and all three completed the expulsion of their children before the arrival of their attendants, and no examination was made. These facts would probably never have been elicited but for the enthusiasm of this inquiry.

During the past year I have almost daily been able to demonstrate to my students the scars of more or less perfectly spontaneously healed lacerations. Further, surgeons who also practice obstetrics almost invariably get good results from primary operations on the cervix while general practitioners not surgically trained do not. Why? Because surgeons, as no other accoucheurs, can carry out a thorough aseptic technic. A majority of the cases healed by primary operations would heal spontaneously and I know, as you do, that sepsis, not union, will follow the primary suturing of an unclean cervix.

These facts show that in many instances tracheloplastic operations may never be needed. We know that primarily placed sutures, as Hirst has shown, hang like earrings in the cervix after the subsidence of the edema and so do no good, and these data seem to indicate that the primary operation should be reserved for the control of hemorrhage.

If a primary operation is unnecessary for the above reasons, the same is true of the mediate operation. Moreover, Girvan has shown that traction on the ligamentous supports is more productive of uterine prolapse or retroversion at this time than at any other, while Wilcox has shown that for many days following labor the traction and manipulation incident to tracheloplasty is especially liable to cause embolism, possibly septic, from the placental site. The lochia are also troublesome at this period and mediate repair should be reserved for some special indication.

Having passed the above arbitrary periods definite symptoms certainly traceable to the cervix or local physical evidences should be awaited as an indication for operation except the patient be anesthetized for other vaginal work.

As regards tracheloplasty for the prophylaxis of carcinoma, a strict adherence to the above indications is all sufficient. Cervical malignancy begins in the cellular element of the cervix, not in the cicatricial tissue unless the cicatrix has caused cellular inclusions, and so long as these cellular elements remain unirritated as the result of the laceration so long the laceration is doing no mischief. Cancer is, so far as we now know, an uncontrolled, erratic cellular overgrowth due to an ultimate unknown cause or causes. I am convinced that it is through the irritation of these cellular elements on the everted, eroded lips, the seat of the so-called ectropion, that laceration predisposes to carcinoma. Hence if this irritation does not exist, the increased liability to cancer does not exist.

As to technic, a pathologic study of sections from the everted and so-called eroded lips of a cervical laceration shows a decided flattening of the superficial structures. The mouths of the glands, while occluded, are also flattened out. The ectropion which might be termed a pseudo-new-growth constitutes a superficial layer over the deeper and less or unaltered structures. The correct operation for trachelorrhaphy should consist not of an indiscriminate chopping out of the angle of the tear and much comparatively sound tissue by scissors, but of a careful and rational excision of pathologic tissue with a sharp scalpel or specially devised knife.

The symptomatic influence of cicatricial tissue in the cervix has been greatly overestimated in some respects and underestimated in others. Aside from exceptional cases long neglected, cicatricial tissue does its greatest harm in limiting subsequent dilatation. Therefore, so that subsequent dilatation may be free, all excisions of material, especially at the angles, should be done with a knife, which leaves far less scar tissue in its wake than does the crushing out of the scissors.

Tracheloplasty, however, embraces a wider field than is covered by Emmet's operation, and includes the various plastic so-called amputations, Schroeder's operation, and such modifications as have been suggested by Newman, Goelet and others.

In the seven cases early referred to as owing subsequent "womb trouble" to possible error in operative technic, they had displacement apparently or possibly, due to too forcible downward traction. All possible plastic operating on the cervix should be done with the patient in Sim's position, thus rendering excessive downward traction unnecessary.

Whenever a repair of the vaginal wall is done at the same sitting, an absorbable suture should be used in the cervix so as to avoid stretching the repaired vagina for the removal of sutures.

CONCLUSIONS.

1. Immediate repair of the cervix is indicated only in exceptional cases aside from the control of hemorrhage.

2. Mediate repair (during continuance of lochia) is contraindicated, except it be in some unusual case.

3. Secondary repair is indicated as soon as symptoms are definitely due to the laceration, such symptoms failing of relief by palliative measures or recurring after apparent palliative cure. Operation should be prompt, not necessarily early.

4. Operations on women past thirty-five give better permanent results than in younger women.

5. Repair of the cervix is indicated as prophylactic of malignancy in a woman approaching the cancer age if the cervix manifests locally evidence of cellular irritation, whether or not causing subjective symptoms.

6. Lacerations in which operation is not indicated should be kept under close observation as the cancer age approaches.

7. Obstetricians are obviously unable to avoid lacerations of the cervix in many cases, but if the above deductions are correct a far more strict asepsis will, by favoring spontaneous primary union of such lacerations, do much toward lessening the number of secondary trachelorraphic operations.

158 Newberry Street.

DISCUSSION.

DR. G. BETTON MASSEY, Philadelphia—This paper represents the methods of investigation that we should apply before forming conclusions. My own conclusions have been necessarily derived from seeing the failures only, and I have seen a great many after late operations. Not being an operator the large number of successes that the Doctor has found in his surgery were not known to me. These failures after the secondary operations were of two kinds: One was failure to remove nervous symptoms. Those cases were very numerous, particularly some years ago when the belief prevailed that all sorts of nervous manifestations in women were due to the existence of a healed scar in the cervix. These healed scars were taken out in many cases, but the patients were not improved. The second class of failures were due to the lack of proper treatment preceding the operative attempts. These patients were really suffering from uterine trouble, but it was a chronic metritis. The scar, which had probably admitted the germs originally, had long ceased to trouble the patient, as was proven by its healing. The subsequent symptoms were due to the enlarged and inflamed uterus, and a failure to cure this before operation probably explains some of the 11 per cent. of cases that were reported as failures. It teaches us that intelligent prior treatment should be exercised in all cases to remove the real seat of suffering, the chronic metritis and endometritis. I conducted a clinic in gynecology for a number of years. Connected with the same hospital were a number of active operators. During the whole time of my clinical work I was anxious to refer as many cases for surgical operation as I could find. Particularly was I looking for laceration cases—cases that in my opinion presented symptoms due to laceration. In the whole time I found but one case that had symptoms due to laceration and not to a metritis. The symptoms were in the nature of miscarriages at a definite period of gestation. The interior of the uterus was normal; there was no leucorrhea, but the uterus was split from the os half way to the fundus. As the patient was anxious to have children I strongly advised an operation. Having absolutely no symptoms from this deep laceration but the miscarriages she failed to take my advice. I want to emphasize the fact that we are looking here at a healed cervix as the cause of symptoms which are either due to the neurasthenic condition of the patient or to an enlarged and inflamed uterus.

DR. RUDOLPH W. HOLMES, Chicago—Every woman who gives birth to a child at or near term has a laceration. One of the most positive diagnostic signs of a previous pregnancy is that the os is no longer circular, but is generally a transverse slit. We must consider that a laceration is physiologic because every woman has it. We can call it pathologic only when a train of symptoms is produced. Women may have a laceration extending to the vaginal vault and it will be physiologic unless pathologic conditions are caused by it. I would like to ask what are the symptoms of a laceration. I have never heard of them and I do not believe that they exist. The symptoms are not those of laceration, but symptoms of the conditions produced by the laceration, such as sepsis or relaxation of the pelvic floor, which commonly accompanies the cervical laceration. From the obstetric standpoint I condemn the promiscuous repair of lacerations of the cervix. No laceration should be repaired unless there are symptoms of the sequelæ of the laceration and when tentative measures fail. I can not recall one case of obstetrics in which a previous trachelorrhaphy had been done where there were not anomalies in the dilatation. As opening of the os occurred it invariably took place, not from dilatation alone, but with concomitant laceration. The most severe cervical lacerations with the accompanying hemorrhages that I have ever seen in my practice have been in cases where a trachelorrhaphy was done subsequent to a previous labor. Of course, we can predict that a woman who has an immense amount of cicatricial tissue in the torn cervix will have an extension of the laceration in her subsequent labor. Furthermore, in taking up the statement that carcinoma is more frequent in parous women because they have had cervical lacerations, and that the repair of lacerations will serve as a prophylactic measure, seems to me to present a great deal of sophistry; this assertion can only be conclusively demonstrated when a large series of cases of carcinoma are taken, and those who have not had trachelorrhaphies are compared with those who have had the operation. Further, I believe desirable results will be obtained for a working hypothesis if all the non-parous women who die after thirty years of age are compared with the parous in the same period of life; 90 to 95 per cent. of all malignant growths of the cervix are in parous women. Is this far from the percentage of parous women in relation to the non-parous at the time when cancer is prone to occur? Lacerations often heal spontaneously if no infection occurs to retard the reparative process. In some instances it is well-nigh impossible to tell if there had been a laceration because the union is so perfect; that is, there is a mere nicking on one or both sides of the external os; if these cases had been examined immediately after labor a considerable degree of laceration would have been demonstrable. I have verified this statement on a number of occasions, for I always examine the parturient canal after operative labors to ascertain the damages done, and again an examination is made at the end of two months. The reason why lacerations are generally found laterally is not explained alone by the fact that tears almost invariably occur there; tears very frequently are in other quadrants of the cervix; in the latter cases the opposing bladder and rectum act as a sort of splint; in the former this splint action is of no avail, and the movements of the uterus with the respiratory excursions prohibit primary union.

DR. A. M. HAYDEN, Evansville, Ind.—We have lacerations that require repairing, and some that do not. If we have a laceration heal, with an inflamed cicatricial scar, that should come out. Endometritis is often directly due to that, and by removal of the scar the endometritis is cured. If we have a laceration that has healed with no inflammation, no endometritis, then, no matter how deep the laceration, there is no indication for an operation. That patient will bear children as well as if she had no laceration. But we find many cases that have nervous symptoms and pain in the pelvis, and we find a laceration that never healed, with endometritis; then we should operate. The patient promptly gets well; the endometritis subsides without further treatment, and there are no further symptoms. Those cases all require operation. I have had many cases of carcinoma of the cervix and I have yet the first case to see where the carcinoma did not follow a laceration of the cervix.

DR. C. S. BACON, Chicago—The attempt of Dr. Craig to get definite data on this question of operation is to be commended, but I do not believe he has secured enough data to justify his conclusions. In the main I believe that most obstetricians would agree with Dr. Holmes. I will agree with Dr. Craig concerning the immediate repair of a laceration if he will make one addition to his conclusion, viz.: That immediate repair is important when there is a deep laceration extending up into the musculature of the uterus for some distance after a severe obstetric operation. It is well known that rupture of the uterus is much more common in cases where there has been a rather serious injury of that kind, and in those cases there should be a careful restoration by suture.

DR. F. A. DUNSMOOR, Minneapolis—Physicians criticise these operations because they hear stories of trouble from the failures, from the ones who suffer pain. The cured patient does not go to every dispensary and physician she knows and tell him that she was operated on and benefited. The patients who go around to the dispensaries, hospitals, etc., are rounders, who are never satisfied. They always criticise the surgeon because he failed to cure them of all their ills. This is the reason we hear so much about the failure of operations, and so little of the successes. Let us announce the results of the operations in patients who have been cured. Dr. Holmes does not believe that a laceration *per se* is a cause of cancer. I differ with him. I have operated on more than a hundred women for cancer of the uterus and all had borne children. Take into consideration the number of women who bear children and have a laceration, and those who bear children but do not have a laceration, and it is the non-repaired laceration which is productive of cancer. I have never yet had the opportunity to operate on a sterile woman for cancer of the uterus, although others claim they have. This repair operation is prophylactic for many conditions not cancerous. Women with deep lacerations of the cervix are predisposed to prolapse, endometritis and dragging pain associated with rectocele and cystocele, and early repair prevents the sequence. As to the diagnosis of laceration, Dr. Holmes says it can not be made except through the speculum. I differ with him again. I can certainly make a diagnosis much better with the point of my finger than by inspection. Often the eye says it does not look like a pathologic condition, but the tactile sense discovers it. I had an interview with Dr. Emmet about ten years ago, and at that time he reported two troubles. One was his renal colic, and the second was from people who thought they made an Emmet operation, when really they did something far different from his conception of it. He said he was often sorry that he ever described that operation because it had been abused so much. It is the experienced operator to whom we turn for counsel in this matter, and I am sure that all lacerations of sufficient extent to be shown by examination through eye or touch as a possible seat for future disturbance should be repaired at first opportunity.

DR. D. H. CRAIG—Had I trespassed on your time sufficiently to read the remainder of my paper some of the criticisms brought out in the discussion would have been answered. As regards scars in the cervix, there is one important question in the technic of the operation. When the denudation or removal of the diseased tissue is made with scissors you leave behind more scar tissue than necessary. I believe that it is important that we remove this pathologic tissue, not by scissors, but by the knife, whether specially devised or the ordinary scalpel, so that we can have accurate coaptation and leave a minimum amount of scar tissue in the cervix. Remove it as you would any new growth; not by indiscriminate cutting out of healthy tissue through a circular sweep of the scissors. The symptoms of laceration were considered at length in my paper. I consider the symptoms of a laceration of the cervix sufficient justification for an operation when other causes of the symptoms have been ruled out by proper previous treatment. I do not mean that cervices should be indiscriminately operated on, but we should select our cases and also the procedure which must be adapted to the individual case. No one operation will answer for all cases.

The successful physician is usually the man who attends strictly to his own business, and refrains from intruding into the affairs of others; who speaks kindly of his fellow practitioner, whether he deserves it or not; who is studious and observant, and profits by his own and the experience of others; who is full of good cheer, and is competent to give wholesome advice. If all physicians belonged to this school the medical profession would be a mighty power, capable of engineering mighty plans for the good of the people, united and respected, free from unjust criticism, and possessed of more than a "common mind."—*Northwestern Lancet.*

ACUTE GENERAL STAPHYLOCOCCUS INFECTION THROUGH THE PUERPERAL BREAST.*

W. P. MANTON, M.D.
DETROIT.

One of the most important functions devolving on the accoucheur is the management of the nursing breast, a responsibility too often shirked, either from indifference, carelessness or ignorance of the physiologic processes involved—a deviation from which may give rise to great physical suffering and lead to disastrous consequences.

It is now universally conceded that all of the more serious disorders of the functioning mammary gland are the result of microbic invasion, the morbific germs gaining entrance to the lobes and interglandular connective tissue either through the ducts, more rarely, or generally through cracks and abrasions of the nipples and surrounding areolæ. Septic material may readily be conveyed by the hands of the patient or an untidy nurse to the wounded surfaces, while the increased vascularity of the breasts and their augmented lymphatic circulation during the inauguration of the secretory function render these glands peculiarly susceptible to the influence of the materies morbi. Moreover, the researches of Honigmann, Ringel and Kostlin[1] have shown that normal human milk contains both varieties of the staphylococcus, while Escherich maintains that pathogenic germs which have gained entrance to the blood from diseased puerperal organs are excreted by the breasts in the milk—additional evidence as to the necessity for the closest surveillance of the breasts during the whole of the lactational period, and especially during the early stages of beginning glandular activity.

While much may still be said and written regarding cleanliness, asepsis and the general care of the healthy and disordered mammary glands during lactation, it is not my purpose to review these phases of the subject, the sole object of this short paper being to direct attention to a single method of treatment much advocated and in vogue, but which, if misdirected, is capable of producing most serious complications. Take up any of the latest text-books on obstetrics and turn to the chapter on the puerperal breast and you will find that, with one exception (Garrigues), massage is recommended in the treatment of mammary engorgement and beginning mastitis. But nowhere will you find a warning word against the possible dangers which may arise from this practice.

The following case illustrates my meaning:

Mrs. T., primipara, aged 18, white, married and a native of Canada, was delivered at the Woman's Hospital by low forceps after a somewhat tedious labor, March 28, 1902. The male child weighed eight pounds. The placenta was expressed twenty minutes after the delivery of the child, and was of unusual size, weighing two pounds and thirteen ounces. The cord was twenty-four inches long and had varicose vessels. There were no maternal lacerations.

Two days later (30th) the patient complained of sore nipples, but the temperature and pulse remained practically normal. On the evening of the third day the temperature suddenly rose to 102.4 and the pulse to 104. There was no chill and the

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1. The latter found micro-organisms, generally staphylococci, in the milk of 91 per cent. of puerperæ. Archiv für Gynäkologie, Bd. liii. 112.

patient appeared in good condition, save that the breasts were tumefied and painful from beginning lactation.

April 1. The temperature was still high and the breasts hard and knotted. Massage with warm olive oil was given in the forenoon and again in the afternoon, and the breast bandage applied.

April 4. The temperature being still much elevated, higher than the condition of the breasts appeared to account for, a careful pelvic examination was made with negative result as to abnormal conditions. A culture taken from the cervical canal at this time was reported by Mr. Tibballs, bacteriologist to the Detroit Board of Health, to be free from pathogenic organisms. The breasts were still sore and painful and massage was continued twice a day, as is customary in such cases in this institution.

April 8. The chart records that the breasts were massaged at 7 and 10 a. m., and again at 4 and 7 p. m. A second culture taken from the cervix was found to contain a few staphylococci and micrococci. As it was evident that the breast massage was being executed in too vigorous a manner it was ordered discontinued. On the following day the patient complained of pain in the left thorax and side.

April 9. An examination of the blood by Dr. Heneage Gibbes showed the absence of micro-organisms. There was slight leucocytosis with polymorphonuclear cells in excess. The blood platelets were disintegrating and did not take the stain in a normal manner.

April 10. The patient had a very offensive, free, watery stool, containing particles of undigested milk. A cough also developed which gave rise to considerable distress, and it was feared that septic pneumonia might be developing, but careful examination showed the lungs to be unaffected.

Fluctuation was for the first time detected in the right mammary gland, and a large parenchymatous abscess was evacuated under chloroform. The pus examined by Dr. Gibbes was reported as follows: "This pus is made up of broken-down material and contains large numbers of staphylococci. There are also a few tetrads. The micro-organisms take the stain faintly and are not in an active condition."

April 19. An abscess appeared in the left breast and was evacuated by incision. A red spot was also discovered near the middle of the patient's back. This subsequently gathered and discharged for several days.

April 23. A second abscess developed in the left breast and one in the right arm.

May 4. An abscess appeared in the right buttock.

May 8. The patient sat up for the first time, the abscess still discharging but gradually healing.

May 27. Another abscess developed in the left breast.

From this time on no new abscesses were formed; the temperature and pulse gradually returned to the normal, and the patient left the hospital well, but still weak from her serious illness, June 5, seventy days from the date of her confinement.

At the beginning of the infection there was more or less gastric irritability and on several occasions vomiting, but as a rule the stomach remained in good condition and the patient took a fair amount of nourishment. Almost from the first the nervous symptoms were pronounced and delirium occurred on the fourteenth day. The patient became noisy and hallucinations of sight and hearing developed. These manifestations persisted more or less for several days. The general condition varied from day to day; the temperature ran an erratic course, fluctuating from normal to 105.6, the highest point reached during the course of the disorder. The pulse rate varied between 76 and 126. The child did poorly from the first, and died on the twelfth day of inanition.

Acute general staphylococcus infection through the puerperal breast is a rare affection, and the case reported is the only one of the kind which I have met in an experience of several thousand midwifery cases. In a fairly careful scrutiny of the literature of the past ten years, I have been able to find but one other somewhat similar instance reported, and in this the pathogenic organisms were streptococci.[2]

2. Max Bensiger: Centralblatt für Gynäkologie, No. 52, 1902.

But however uncommon the condition may be, the case just related stands as a vigorous protest against the indiscriminate employment of massage in mammary engorgement during the early days of the puerperium. Distension and turgescence of the nursing breast can be better and more safely treated by other means, and the dangers of traumatism to the congested and often exquisitely sensitive organs and the formation of mammary abscess together with the possibility of septic infection may thus be obviated.

DISCUSSION.

DR. CHAS. S. BACON, Chicago—Infection of the breast with staphylococci or streptococci certainly is not very rare; nor is a general infection from that source rare. Massage of the puerperal breast is a subject I have talked and written about for the last four or five years, but I do not seem to make much impression. We should distinguish between turgescence or congestion of the breast at the beginning of lactation and infection, but usually that is not done. Very often a large, swollen, overfilled breast is called an inflammation. On the other hand, in the inflamed breast the infection often is not recognized unless the symptoms are very distinctive. The place for massage is the non-infected breast; I would not dare to use it in an infected breast. When there is fever or other symptoms of infection massage is absolutely contraindicated. There support and ice are indicated until the presence of the abscess is determined. When the breast is full and swollen at the beginning of lactation it does not mean that the breast is full of milk; it is an overfilling of the blood vessels. I can make the breast soft and small and not evacuate more than a drop of milk, but the massage must be carried out in accordance with the ordinary principles of massage, and these are not ordinarily taught. You have all seen pictures where massage is done by rubbing toward the nipple. That is absolutely false. The object of massage is not to evacuate the milk, but to empty the overfilled blood vessels and lymphatics. In a congested knee joint you do not rub toward the knee; on the contrary, you rub away from the knee, first emptying the blood vessels before you approach the tender joint. You must begin outside of the breast and empty the vessels leading to the axilla and the subclavian veins and lymphatics. That can be accomplished without pain to the patient. The criterion whether massage is done properly is when the operation is not painful. The manipulator must sit in a convenient position; have sterile hands, place his patient in proper position, and begin outside of the breast, gradually coming nearer and nearer to the nipple as he empties the vessels. In fifteen to twenty minutes the breast is small and soft. How many cases need that massage? Not very many. Nor is it absolutely necessary in any case, because overdistention of the breast is never a serious matter. But a nervous patient who is weak, who has suffered a hard confinement and has this very tender breast, may lose many hours of sleep and rest; if that can be prevented it should be done. One or two such treatments will usually suffice to give relief.

DR. EFFA V. DAVIS, Chicago—For many years I have had a great fear of massage of the breast and also the use of the breast pump. Staphylococci as a cause of infection in the breast is interesting. All of the open glands on the skin surface are likely to be contaminated, and I believe the massage in this case produced the abscess. Infection of any part of the body, the pelvis or elsewhere, is likely to affect the mammary gland as the turgescence offers a good lodging place for bacteria. I warn my patients and nurses to let the breast alone. A bandage is applied smoothly and evenly on the evening of the second day; this minimal pressure reduces the turgescence somewhat and the child is put to the breast on the first day after delivery. If one uses a bandage properly adjusted instead of the rubbing process the natural turgescence will not be troublesome.

DR. RUDOLPH W. HOLMES, Chicago—Dr. Bacon has done a great thing for the profession in exposing that nonsensical massage so commonly recommended in obstetric text-books; he

did a far greater good when he described a method of massage for the breast which was based on sound anatomic reasons. Massage should not be done indiscriminately; it should only be done on an engorged, tender breast. It is almost criminal to continue the manipulations when inflammation has occurred. Then, too, I think the nipple should be better prepared, not by using hardening solution, such as alum, which I believe tends to promote fissures, but by using an oily preparation, such as cacao butter impregnated with some mild, innocuous antiseptic like boric acid. These two suggestions, Bacon's massage and preparation of the nipple, will go a long way toward preventing such complications as were described by Dr. Manton; massage will often disseminate a local process into a systemic disease. Further, a well applied binder is a useful adjunct. I do not believe that staphylococcic infection of the breast is so infrequent; this presumption is based on the myriads of these germs normally found in the skin. Undoubtedly it is more rare to have a systemic infection originating from a mammary contamination. The question naturally arises if the massage in the early part of the treatment might not have been a factor in the later course of the disease.

DR. W. P. MANTON—I do not believe that general staphylococcic infection is uncommon, but I can not find any record of cases.

THE MORPHOLOGY AND BIOLOGY OF THE PARASITE FROM A CASE OF SYSTEMIC BLASTOMYCOSIS.*

F. J. OTIS, M.D.
Instructor in Bacteriology and Hygiene, and
NEWTON EVANS, M.D.
Instructor in Pathology, American Medical Missionary College.
BATTLE CREEK, MICH., AND CHICAGO.

The observations recorded in this paper were made on the parasites obtained in the tissue and by artificial culture from the case of fatal systemic blastomycosis reported by Ormsby and Miller.[1] We wish here to acknowledge their assistance in the work done and kindness in allowing us to use the material from their case.

In May, 1894, Gilchrist[2] described in tissues from a skin lesion the spherical, double-contoured, budding microörganisms which have since been observed in about thirty-five reported cases. In this case cultures were not made and little was known of the biology or nature of the parasite. In November of the same year Busse[3] reported a case of systemic infection resulting fatally in which a similar parasite was described as the etiologic factor. Cultures were made from this case and the organisms extensively studied by Buschke.[4] In culture the organism grew by budding, and mycelial formations were also seen.

The cases reported have had lesions for the most part confined to the cutaneous surface. A few cases of systemic infection, however, have been observed. The cases have largely occurred in the United States. The largest number have been observed in and about Chicago. The cutaneous lesions have characteristics which show such uniformity that they may be distinguished often by their gross appearance. The microscopic findings are similar in all cases, and the presence of the typical organisms in the tissue, or pus of miliary abscesses, is pathognomonic. The cases of systemic infection, as far as we can determine, which seem to have definite confirmation, are four: First, the case of Busse and Buschke; second, a case reported by Montgomery and Ricketts,[5] and later by Walker and Montgomery;[6] third, one reported by Ophüls and Moffit[7] (San Francisco), identical with those cases which have heretofore been called a protozoan infection, but which was proved by him to grow as a typical fungus in artificial media; and lastly, the case of Ormsby and Miller,[1] in Chicago, from which our material was obtained. All of these systemic cases have resulted fatally.

There is much uniformity in the morphology of the organism, as found in the tissues and purulent exudate, in all these cases, both cutaneous and systemic. They are spherical or oval, double-contoured, with very refractive cell capsule, increase by budding, and, in the Ophüls' case by sporulation, which has not been definitely proved in any other case. No mycelia are found in the tissues or pus. The size varies within wide limits in different cases, parasites from three to thirty microns in diameter being seen. The cultural characteristics of the organisms from different cases show marked variations, in some cases multiplying by budding exclusively, in others growing mycelia principally, and in others abundant aërial hyphæ are produced. Hektoen[8] describes very minute forms which, under proper conditions, develop into the larger form. And, further, some of the organisms, if watched for some time through a number of generations of growth, completely change in their characteristics on artificial media, multiplying at one time by gemmation, and afterward forming mycelia, or vice versa. We may thus say that in its growth and cultures, polymorphism is manifested to a striking degree. Hektoen made a careful study of the parasites from a case of blastomycetic dermatitis.[8] He describes the appearance of the different forms of the organism as seen in the tissues; some with a clear zone surrounding the protoplasm inside the capsule, others in which this is inconspicuous; some with large vacuoles in the protoplasm, others with dense, granular protoplasm without vacuoles. He also describes mulberry-like masses of hyaline bodies in the tissues, both intracellular and extracellular. The cultural forms varied much in size, a small, coccus-like form being described.

Gilchrist[9] makes extensive observation on the morphology and biology of the parasite. The process of budding, as it occurs in the tissue, is accurately followed. The endosporium, or protoplasm, of the bud increases to almost the size of the parent, and then becomes separated. He also notes peculiarly refractive forms which will not take the stain. Other forms in

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* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Pathology and Physiology, and approved for publication by the Executive Committee: Drs. L. Hektoen, F. B. Wynn and W. S. Hall.

1. Ormsby, O. S., and Miller, H. M.: Report of a Case of Systemic Blastomycosis with Multiple Cutaneous and Subcutaneous Lesions. Jour. Cutan. Dis., March, 1903.

2. Gilchrist, T. C.: Communication to the American Dermatological Association, May 30, 1894.

3. Busse, Otto: Ueber Parasitare Zelleinschlusse und Ihre Zuchtung. Centralbl. f. Bakt. und Parasitenk, 1894, xvi, 175; also, Ueber Saccharomycosis Hominis, Virchow's Archiv, 1895, cxl, 23; also, Experim. Untersuch. Ueber Saccharomycosis, Virchow's Archiv, 1896, cxliv, 360; also, Die Hefen als Krankheitserreger, Berlin, 1897.

4. Buschke, A.: Ueber Hefenmykosen bei Menschen und Thieren, Volkmann's Samml. Klin. Vortrage, 1898, No. 218; also Ueber Hautblastomykose. Verhandl. der Deutschen Dermatologischen Gesellschaft. Sechster Congress, 1899, 181.

5. Montgomery, F. H., and Ricketts, H. T.: Three Cases of Blastomycetic Infection of the Skin; One Case Limited to "Tumor" of the Lower Lip, Journal Cutan. and Genitourinary Diseases. January, 1901.

6. Walker, J. W., and Montgomery, F. H.: Further Report of a Previously Recorded Case of Blastomycosis of the Skin; Systemic Infection with Blastomyces; Death; Autopsy. THE JOURNAL A. M. A., April, 5, 1902.

7. Ophüls, W., and Moffit, H. C.: A New Pathogenic Mould, Phila. Med. Jour., June 30, 1900.

8. Hektoen, L.: The Organism in a Case of Blastomycetic Dermatitis, Jour. Exper. Med., vol. iv, 1899.

9. Gilchrist, T. C., and Stokes, W. R.: A Case of Pseudo-Lupus Vulgaris Caused by a Blastomyces, Jour. Exper. Med., vol. iii, No. 1, 1898.

which the protoplasm has contracted into a half-moon shape are described. The adult forms in cultures show in the protoplasm fine, deeply-staining granules, larger refractive granules, and often one or more vacuoles.

Ricketts[10] has collected and tabulated observations concerning the morphologic, biologic and cultural characteristics of the organisms from a number of cases (seventeen), from which table he concludes that there are three more or less distinct groups of organisms having common generic characteristics. Montgomery[11] gives a very careful description of the clinical, pathologic and bacteriologic features from thirteen recorded cases.

DESCRIPTION OF CASE.

The clinical history and discussion of the present case have already been reported by Ormsby and Miller,[1] accompanied by a brief description of the microscopic and gross pathology of the tissues affected, and also a short study of the cultural characteristics of the organism by the present observers. The history indicated that the primary infection was located in the pulmonary tissue, followed by the cutaneous and subcutaneous lesions. Practically all the cutaneous lesions were of such a nature as to indicate the hemal origin of the infection, the superficial tissues being affected only after the process progressed from the deeper tissues. One lesion only, on the hand, had the characteristics described in the lesions of blastomycetic dermatitis of local origin. Of the internal organs, the lungs were most extensively involved; grayish nodules of varying size, and in enormous numbers, being distinguished in all parts of the tissue of both lungs. The pleuræ were extensively affected, and adhesions and whitish nodules of varying size were present in all portions. The lesions in the spleen were almost as extensive as in the lung. The nodules composed of typical organisms were found also in the liver, kidneys, pancreas, trachea and larynx. (This is apparently the first case in which involvement of a mucous membrane proper has been described.) The teased specimens in hanging drop from the different organs gave abundant opportunity for studying the living parasites as they occurred in the lesions. The stained sections from the lung tissue, especially, show parasites in immense numbers.

MICROSCOPIC APPEARANCE OF TISSUES.

Lung.—The slight degree of inflammatory reaction is noteworthy, the lesions being composed almost entirely of the parasites. There is some newly-formed connective tissue containing small round cells, polynuclear leucocytes and many mast cells, the protoplasmic granules of which stain red with polychrome methylene blue. There is some coagulation necrosis, areas of caseation appearing mostly at the center of the nodules. In the areas where the parasites are very abundant the elastic tissue has entirely disappeared, as indicated by staining with orcein. The epithelial cells which are remaining in the lung are largely detached, and are remarkable for the amount of brownish pigment granules which they contain. Similar deposits of pigment are found in many other cells, especially the polynuclear leucocytes of the blood.

The giant cells in the lung tissue are remarkable for their number and size. They vary from twenty microns to many times that diameter. They all contain parasites in different stages of development, and the larger ones are crowded with them, the cell nuclei being few and indistinct, while in the smaller giant cells the cell nuclei are numerous and prominent. The peripheral arrangement of the nuclei seen in the tubercular process is not followed, but many of the nuclei are near the center of the cell body.

Spleen.—The splenic tissue is riddled by the growth of the typical organisms, showing grossly as yellowish-white areas and nodules. Microscopically, the parasites are seen scattered widely throughout the tissue, but not in such large masses as in the lung tissue. The splenic pulp contains much brown pigment.

The lesions of the kidney, liver and pancreas are smaller and less numerous, often escaping naked eye examination. The immense numbers of parasites and small amount of newly-formed connective tissue are the principal characteristics of these lesions. In and about them are always seen typical mast cells.

Fig. 1.—Nodule of blastomycetes in lung tissue. Center showing old, poorly staining organisms, and periphery showing young, deeply staining organisms.

Lymph Nodes.—The peribronchial lymph nodes were markedly enlarged, and contained large amounts of black pigment, apparently carbon. On microscopic examination we were unable to demonstrate the presence of any parasite in the tissues; however, in one section parasites were seen in the blood stream of one of the vessels.

MORPHOLOGY OF PARASITES IN THE TISSUES.

The stained sections of lung tissue offer excellent opportunity for a study of the parasites in different stages of their development. There are seen large, rounded masses of parasites under the microscope (Fig. 1), at the center of which the organisms are all of large size, take very little stain, show few buds, and many contain large vacuoles, occupying almost the entire cell. These are evidently old cells which are degenerating and disintegrating, as indicated by the granular detritus

10. Ricketts, H. T.: Oidiomycosis (Blastomycosis) of the Skin and Its Fungi, Jour. Med. Research, vol. vi, No. 3.

11. Montgomery, F. H.: A Brief Summary of the Clinical, Pathologic and Bacteriologic Features of Cutaneous Blastomycosis, THE JOURNAL A. M. A., 1902.

among them. At the periphery of these areas the organisms differ much from those at the center. The cells are of various sizes, have deeply-staining protoplasm and are undergoing cell division actively. These areas, therefore, give excellent opportunity for the study of the life history of the parasite in the tissue.

The most satisfactory stain which we have found for studying the structure of the yeast-like organism is the polychrome methylene blue stain, applied according to Unna's method. Other stains used are hematoxylin and eosin, methylene blue and eosin, Gram's stain, Van Gieson's method, carbol fuchsin and orcein.

The typical parasites are of various sizes, measuring from five to fifteen microns in diameter. They all have a definite, refractive capsule, which takes most stains sparingly, usually less than one micron in thickness. The capsule stains best by methylene blue and eosin. Within the capsule the structure has so many variations as to be almost picturesque in the variety of forms seen. Many of the cells have a wide, clear zone within the capsule and surrounding the protoplasm.

In the natural order of growth of any organism, one expects to find a certain definite order of development, and it has been our effort by careful study of the various

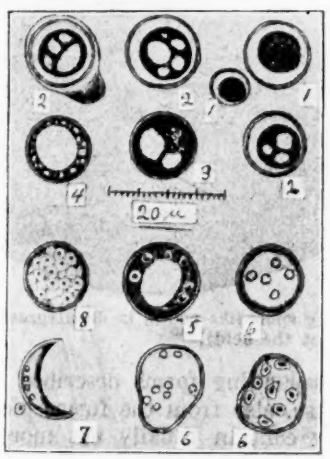


Fig. 2.—Diagrammatic representations of adult forms of parasite showing different stages of development. (Made from drawings.) 1. Young forms, dense protoplasm, wide clear zone. 2. Protoplasm vacuolated; one enclosed by tissue cell. 3. Protoplasm fills capsule. 4. Contains one large vacuole. 5 and 6. Contain spore-like bodies. 7. Collapsed form; one extracellular spore-like body. 8. No vacuole; protoplasm transformed into spore-like bodies.

forms to determine the characteristics of the cells at the different stages of their development. We see, then (Fig. 2), in all forms a capsule protoplasm of varying structure and staining properties; in many the clear space between the capsule and protoplasm, and many contain one or more vacuoles of various sizes. Budding forms are numerous, and cells of almost all types of structure are seen undergoing this form of multiplication; but the budding process is most active in cells of a certain type—those in which the protoplasm is dense, deeply staining and relatively small in amount, being surrounded by a wide, clear zone. These are of medium or small size generally, and are evidently relatively young and actively growing forms. We can distinguish, then, the following types:

1. Cells which are small in size, from five to ten microns usually, having a relatively small mass of deeply-staining protoplasm, surrounded by a wide, clear zone inside the capsule. The mass of chromatic substance is spherical, except in those which are undergoing the budding process, is centrally or excentrally located, is finely granular or homogeneous, but very deeply stained. Many of these are budding.

2. Forms similar to the first, but slightly larger on an average, the deeply staining protoplasm being more coarsely granular and containing clear, rounded spaces, which are evidently vacuoles, of varying size and number. The protoplasm occupies a larger area in the cell, the clear zone being narrower than in the preceding form. Many of these are undergoing the budding process.

3. Forms similar in size to the preceding, protoplasm staining well, granules large, a few large vacuoles being present, all of the space occupied by the protoplasm, the clear zone being obliterated or inconspicuous.

The preceding forms are found especially at the periphery of the circular masses of parasites described in the lung tissue, and are evidently younger and growing forms, actively dividing.

4. Large cells in which the protoplasm fills the capsule and contains a single, very large, spherical vacuole, centrally or peripherally located. The protoplasm thus appears as a ring of granular material, does not take a deep stain, and some small, circular, hyaline areas are seen in it. These forms are seen mostly at the center of the masses of parasites.

5. Large forms with very large central vacuole, a thin layer of protoplasm which has undergone division into spore-like bodies, which have the appearance shown in the figure. These bodies are about one micron in diameter, appear to have a central clear space surrounded by a ring of chromatic substance of irregular thickness, the chromatic substance often being accumulated at one portion of the ring, at other times appearing as two masses on opposite sides of the ring. These spore-like bodies are seen to be only at the periphery of the cell capsule. These forms of cells are found only at the center of the masses of parasites.

6. Similar cells in every respect, except that they are collapsed, the fluid contents of the vacuole having been evacuated. These forms are evidently derived from those described in paragraph No. 5. Very few of those cells with refractive contents have undergone any such change.

7. Another distinctive form appears in which the protoplasm contains no large vacuole whatever, but as they develop the protoplasm divides into from ten to fifteen small hyaline bodies, in many of which is seen a central densely staining body. Similar bodies to these are also seen outside the capsule.

Other variations in the structure of the cells may be seen—some with refractive contents which does not take the stains; others are seen in small numbers in which the protoplasm is completely obscured by a mass of brown pigment. The presence of these forms is possibly an explanation of the origin of the pigment granules described in the tissue cells, and in the leucocytes of the blood. With polychrome methylene blue stain a great many of the organisms contain in their protoplasm basophilic granules staining red. These have been described by Gilchrist and others. There is a remarkable variation in the affinity which different organisms have for the stains, cells lying side by side, and apparently of the same structure, show an entirely different reaction to the stain. Several observers have described adventitious capsules. We have not observed a similar condition, but often individual parasites are seen within the protoplasm of the tissue cells, which is stretched about it and so attentuated as to resemble a capsule.

SPORE FORMATION.

Multiplication of the organism by budding is the usual method within living tissue, and by budding and mycelial and conidial formation in the culture, but the production of endospores and propagation by their development is still a matter of doubt. In the case under consideration the findings in the tissue seemed to indicate the presence of spore formation, and we will endeavor to describe this process here (Fig. 3). These forms occur for the most part in the centers of the masses of parasites where all the organisms are of advanced age, and many are disintegrating. Most of the cells in question contain large central vacuoles, the protoplasm being pushed to the periphery, appearing as a ring just within the capsule. This ring of protoplasm has undergone division into bodies which are small (about one micron in diameter), and are composed of an outer ring of chromatic material and a hyaline center (Fig. 4). These bodies have already been described in a preceding paragraph. These spore-like bodies are seen by careful focusing to be situated at the periphery and not at the center of the cells, the center being occupied by a large vacuole. They number from eight to twelve in a capsule. Exactly identical forms are seen as ex-

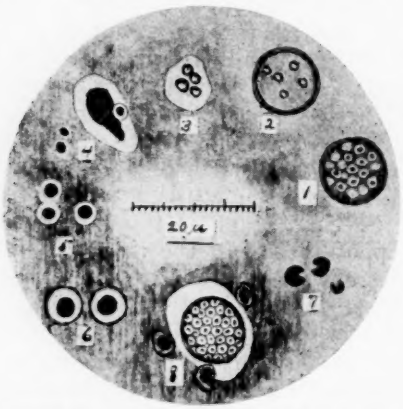


Fig. 3.—Sporulating forms and developing spores. 1 and 2. Adult forms containing spores. 3 and 4. Extracellular spore bodies; one at 4 is situated in protoplasm of tissue cell. 5 and 6. Developing spores. 7. Crescentic forms of developing spores. 8. Organism from guinea-pig's kidney, sporulating.

tracellular bodies, and other larger forms which have a crescentic shape and have evidently been formed by the development of these ring-like bodies, the chromatic substance increasing on one side and the hyaline center becoming eccentric, thus producing the appearance of a crescent. Further, there are found in these old capsules just described other small forms having a solid chromatic center surrounded by a hyaline area, and similar to the bodies appearing in the cells which we will now describe.

There are certain cells which we have already mentioned which do not contain vacuoles, at least have no large central vacuole. In their later stages the protoplasm of these forms breaks up into small rounded hyaline bodies, many of which are seen to have a densely stained spherical center. Bodies exactly resembling these are seen outside the cells, and others, which are larger, one to three microns in diameter, and having about them the hyaline zone, but no distinct capsule as seen in the adult form. Some of these forms have been noted within tissue cells, and these tissue cells with their contained spore bodies are probably the beginning of the giant cells. As soon as these developing spores reach a size of about four or five microns a capsule is seen surrounding the clear zone. It was noticed that the parasites which are in the younger and smaller giant cells are mostly the smaller forms, while the older and larger giant cells contain older developmental forms of the parasites. It seems probable that the large rounded masses of parasites described in the pulmonary tissue are the result of further development of the giant cells.

The sporulating forms described here differ radically in the number of spore bodies formed within one capsule

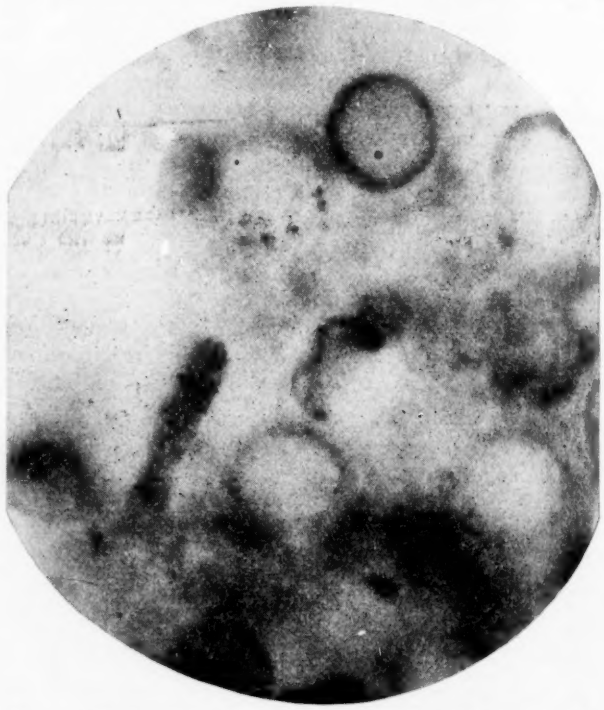


Fig. 4.—Showing spore-like bodies in disintegrating capsule (just above the center of the field).

from the corresponding forms described by Ophüls in his systemic case, also from the forms pictured by Gilchrist.[12] They contain usually not more than twelve or fifteen, while Ophüls describes one hundred or more in each cell. However, we have noted in one of the

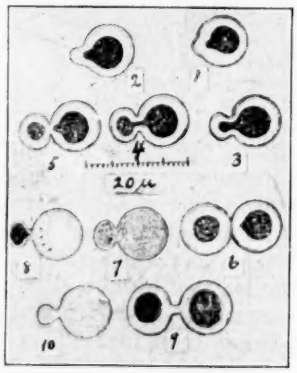


Fig. 5.—Budding forms. 1 to 6. Series showing progressive changes in process of gemmation. 7 to 10. Unusual forms. 8. Organism, budding and apparently sporulating simultaneously.

guinea-pigs experimented on forms containing a very large number of spore-like bodies.

We have, then, two forms of cells producing spore-like bodies, one with a large central vacuole and one without, the bodies produced in these two forms being different in appearance, as already described. In no case

12. Gilchrist, T. C.: Blastomycetic Dermatitis in the Negro, Brit. Med. Jour., Oct. 25, 1902.

have ruptured forms been observed in the tissues, the spores apparently being liberated by the disintegration of the parent organism. There is a possibility of confusing some of the extracellular developing spores with certain products of tissue cell degeneration.

We have not absolutely observed the development of these spore-like bodies into adult organisms, but the appearance of the different forms which we have seen in the tissues leads us to believe that this is really the case.

THE BUDDING PROCESS.

The process of budding, as observed in the tissue sections, is almost entirely confined to the younger forms, those having deeply staining protoplasm and a wide, clear zone within the capsule. However, it is seen in other forms. A few cells are seen undergoing gemmation and apparently sporulation simultaneously. The different stages in the budding process are represented by a series of drawings in Figure 5.

CHANGES IN THE BLOOD.

In the case of Busse,[3] where there was a fatal systemic infection, cultures of the parasite were made from the blood during life. In Gilchrist's case,[12] which he regarded as a beginning systemic invasion, examination of the blood by culture failed to reveal their presence. In the case under consideration, we have observed in the blood stream of vessels of the kidney (Fig. 6), also in other places, adult parasites mingled with the blood cells. On examination of sections of a postmortem clot from the heart practically all of the leucocytes were seen to contain large, brownish pigment granules of uniform size, from three to ten in a cell.

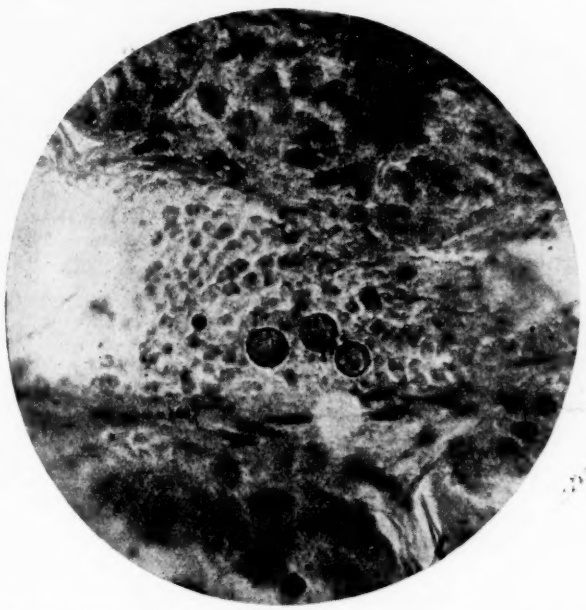


Fig. 6.—Three adult parasites seen in the blood stream of a vein of the kidney.

TEASED TISSUE IN HANGING-DROP CULTURE.

In the teased specimens of fresh tissue from the affected organs large numbers of blastomycetes were observed. They were not all of uniform size and structure. They varied from five to fifteen microns in diameter. The contents of the cell were often nuclear in appearance. Sometimes there were only granules present. Frequently the granular contents were lobular in appearance, raspberry-like; again, they would assume a circular form about a large vacuole.

The cell wall is refractive and perfectly spherical. There is frequently one point where the capsule appears very thin, a point at which the protoplasm is often seen to protrude in the budding process. This is not always the point through which the growth takes place, for budding cells have been observed to produce mycelia from a point at sufficient distance from the point of attachment of the daughter cell to subtend an angle of twenty degrees. At the point where the mycelium appeared the capsule appeared to be perfectly firm.

Cell Development.—When hanging-drop cultures were first made, the cells varied considerably in size, but in a few days they had all reached a uniform size. As far as could be observed, no new budding processes took place after the cells had been placed in artificial media. Buds already existing grew to full-sized organisms. Some time later there appeared a few very large organisms (twenty to thirty microns in diameter) that changed their form from round to oblong. None of these large forms developed mycelia. In old mounts the cell contents of most of the organisms developed oil-like globules that varied from one to seven microns in diameter. In ten days some of them became so large that one globule occupied most of the cell. Some granule-like bodies manifested a very marked brownian movement. The formation of the fat-like globules seemed to be a process of degeneration, for the cells most exposed and those supplied with the poorest pabulum developed the largest globules.

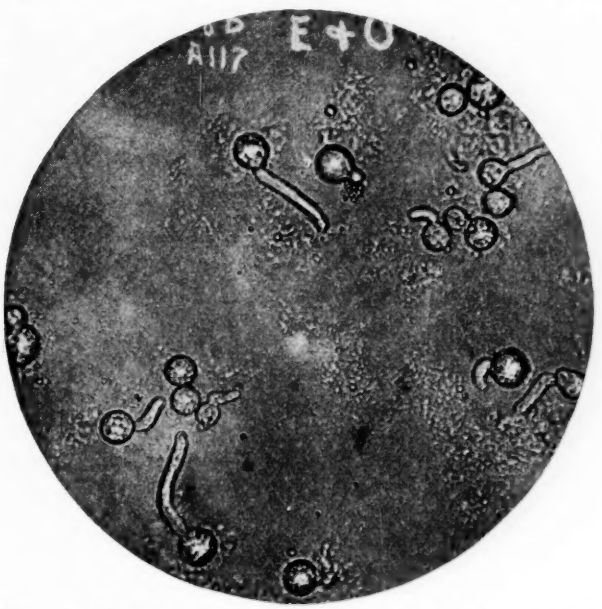


Fig. 7.—Blastomycetes. Teased cells from spleen beginning development in artificial media.

Formation of Mycelia.—Thirty hours after hanging-drop cultures were made with bouillon for nutriment the cell started out small processes (Fig. 7). In the next twenty hours they grew sixty microns in length. The mycelia were homogeneous and possessed a very thin cell wall. Where the media was adequate, its growth seemed unlimited; but where there was but little media they grew slowly and developed a firmer wall. Protoplasmic granules and pinkish vacuoles formed in the processes. Soon these granules became smaller and more dense. Then they manifested a very active brownian movement. After the mycelia were several days old, there appeared a subdivision of the mycelia into cells or segments of varying length (ten to one hundred microns).

These segments near the focus of growth continued to develop, assuming a spherical form.

After a hanging-drop culture in glycerin bouillon had developed for about a month there appeared an end cell that budded. In a few days there were four cells. These, as in several other places, developed until there were a dozen or more in a cluster.

Fortunately, one hanging-drop culture had but six microörganisms present, thus giving excellent opportunity to observe them individually. One of the budding forms started a mycelium. The process originated from a point near the attachment of the daughter cell. Shortly after the mycelia divide into segments, many of them sending out processes (Fig. 8). There were no more than one process from a given segment. The granules that formed in the mycelia showed a more marked brownian movement than particles in the surrounding fluid. It was as marked as the motility of the pigment in the malarial parasite. This movement lasted for more than two months. It was observed also in the mother cell. As the plant became older there appeared an extra development of some of the individual cells in the thread.

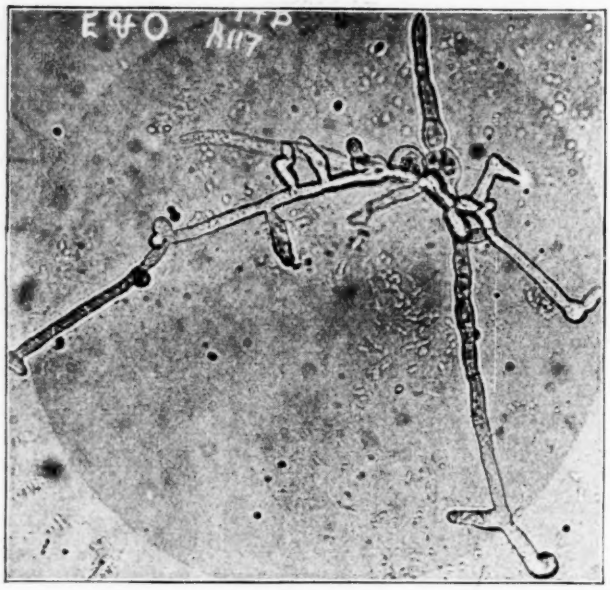


Fig. 8.—Blastomycetes. Dividing cell after ten days' growth in hanging-drop culture.

They took on a spherical form, and produced a protoplasm similar to the protoplasm of the cells in the teased specimen.

CULTURAL CHARACTERISTICS.

Petri Dish.—Six to nine days elapsed after a culture was made before any macroscopic signs of development appeared. Then a white area composed of radiating threads might be seen about the center of growth. If the cultures are observed with a microscope, these threads may be seen a few days earlier. One or more mycelia may be seen growing from a point as early as the third day. These soon subdivide, others are given off nearer its point of origin; these grow out in radiating lines, subdividing as they grow. The growth may be very rapid, the mycelia increasing two millimeters in length in a day. The rapidity of the growth did not seem to depend on the temperature so much as it did on the amount of moisture in the atmosphere. The most rapid growth was manifested when the Petri dishes were kept so there was considerable moisture condensed on the inner surface of the covers. In the Petri dish the most rapid growth was manifested in gelatin. It is interesting to note that in all media for some days no aërial hyphæ were produced. Instead, the growth spread beneath the surface in all directions. Later, however, the white aërial hyphæ appeared near the center of the growth.

Bouillon Culture.—Blastomycetes developed in plain, saccharin, glucose, lactose and glycerin bouillon. It is the most rapid and luxuriant in the glycerin bouillon. It grows most readily and rapidly on the surface and clings to the side of the tube very closely. It forms a mycelial growth on the surface of the bouillon so firm that it will prevent the bouillon flowing when the tube is inverted. If the tube is shaken a little after the growth develops, it is forced away from its position on the side and has the appearance of cotton. It never has developed the powder-puff appearance in bouillon. It is quite perfect in agar-agar, however. The teased membrane from the surface of the bouillon showed numerous conidia, three to six microns in diameter. There were also large conidia invariably filled with spore-like bodies. A little pressure between cover slips would liberate the contents of these bodies. Then all the appearances of the cells from teased tissues were observed. These large forms varied in size from seven to fifteen microns. Their arrangement in the teased materials suggested that they grew individually rather than in clusters of conidia.

Agar-Agar.—As has been mentioned, the early growth is quite completely beneath the surface. The growth is silvery white and forms a powder-puff-appearing hemisphere. It sometimes remains entirely beneath the surface and does not wrinkle. Again, it may wrinkle the surface. Sometimes eminences are thus formed from which beard-like tufts of aërial hyphæ are given off. As the culture advances in age it becomes slightly brown. The illustration will show the forms of growth as they appeared under the microscope. Conidia filled with spore-like bodies were also observed. The hyphæ varied much in diameter. There were some very fine forms measuring less than one micron.

Gelatin.—The gelatin plate grew very rapidly and did not wrinkle. No liquefaction was observed. The stab culture grew most rapidly at the surface. No liquefaction was observed in stab culture until after a month, when it was noted that the entire gelatin had gradually liquefied. At the end of three months it is perfectly fluid.

Litmus Milk.—The growth is rapid and abundant. The media changed to a deeper blue.

Potato.—The growth was as rapid as on plain agar. It was white and appeared like froth as the potato dried.

Loeffler's Blood Serum.—The growth was abundant, and did not seem to be more rapid than on glycerin agar. The color was not any different than what might be imparted by the media. There was no liquefaction.

Motility.—The motility of the protoplasmic granule was observed, but there was no motility of the entire microörganism.

Oxygen Requirements.—The cultures grown anaërobically by the Novy method showed no signs of growth in a month; but when removed from the hydrogen developed growth in seven days. A microscopic examination of material from the surface of the culture when taken from the jar showed no growth and no unusual forms.

Gas.—Although growth took place quite readily in the fermentation tube, no gas was produced, though grown in lactose, glucose and saccharose media.

By-Products.—No alcohol was developed in bouillon above mentioned. No carbon dioxid was produced in

quantities that could be detected. There was no nitrite or indol produced.

Destruction by Heat.—Growths in which there were aërial hyphæ grew readily after being exposed to 100 degrees C. for five minutes; while, if the hyphæ were submerged in bouillon before submitting to the heat, they were destroyed in less than five minutes at 54 degrees, centigrade.

Destruction by Antiseptics.—The microörganism is destroyed when exposed as follows: Five per cent. carbolic acid, for one minute; 2 per cent. commercial formalin, one minute; 1/1,000 bichlorid, for one minute. When exposed to 2 per cent. hydrochloric acid, specific gravity 1,320, for fifteen minutes, it not only was not destroyed, but it seemed to grow more rapidly.

Animal Experiments.—Of five guinea-pigs that were successfully inoculated, four developed ulcers at the point of inoculation. One developed simply a nodule. The ulcers were oblong, having the long axis parallel with the long axis of the body. In the center of a typical ulcer there is a dry, bloody scab. If this is raised it bleeds readily, while there may also be seen many pin-head-size gray foci. They suggest the miliary pustules characteristic of the human skin lesion. Around the central portion is a raised slightly indurated area from which the hair has fallen. The third day after inoculation one animal developed a subcutaneous abscess from which a bloody fluid was evacuated in which blastomycetes were observed. Two weeks after inoculation a ridge was noticed from the ulcer along the sternum to the clavicle, suggesting an enlarged lymphatic. The animals died a month after inoculation, all within a few days of each other. Although an epidemic was suspected it could not be proven bacteriologically, as blastomycetes were found near the seat of inoculation, while from the liver and spleen a pure culture of blastomycetes was grown in one instance. Cultures taken from the internal organs of the other animals did not develop any growth. However, had a larger number of cultures been made undoubtedly a positive result would have been more often obtained, for two-thirds of the successful cultures in the one case were negative. The lesions observed were numerous. Infarcts appeared in the lungs, kidneys, spleen, and in one case seven small, round hemorrhagic infarcts were observed in the stomach wall. Pin-point foci were seen in the liver and spleen. An ulcer was noted in the upper intestine. There was also quite an inflammatory condition in the axilla and groin, but no general glandular enlargement could be seen. One guinea-pig inoculated with material from agar-agar died in two months and manifested similar lesions to the above. Two rabbits were inoculated with teased tissue. Both lost in flesh, one more rapidly than the other. One is living; the other was killed five months later. No lesions were observed except numerous subcapsular scars in the kidneys. The microscopic study proved that they were a healing infarct. Two mice were inoculated with a culture after four months of artificial cultivation. They are alive after three weeks.

The microscopic study of the organs of the animals unfortunately has not been completed; nevertheless, quite a complete study was made of those of the guinea-pig dying of systemic infection. The same kind of lesions were noted as in the human. One observation is especially worthy of mention, namely, many large cells, apparently sporulating forms, as mentioned by Gilchrist,[12] were observed in the kidney sections.

There has also been a case of accidental infection following this case. The microörganism has been isolated in pure culture. It has also been observed in sections.

Experiments were undertaken to determine the effect of the *x*-ray on cultures of blastomycetes. They were exposed in Petri dishes with covers of oiled paper for periods from ten to thirty minutes in length every third day for two weeks. No visible effect was produced.

An ordinary sixteen-plate static machine was used with an *x*-ray tube of low tension. The distance of the tube from the cultures was two inches.

Cultures prepared in a similar manner were exposed to the influence of the light of an actinic ray apparatus. In these specimens, the growth of the organisms entirely ceased. However, a certain amount of heat was developed in the exposures, and it is impossible to determine whether the effect was due to the heat or to the influence of the actinic ray.

During these experiments, a very interesting observation was made. The paper covers of the Petri dishes were oiled, some with paraffin, others with cedar oil, to make them more transparent. In the case of those which were exposed to the *x*-ray, those cultures which were under the paraffin paper grew with their usual activity, while the growth of those under paper prepared with cedar oil was absolutely inhibited, and by culture experiments from those plates it was determined that the life of the parasites was destroyed. In a later experiment in which cultures were employed which had been growing for nine days, and in which the colonies had reached a considerable size, their further growth was entirely prevented by the cedar oil paper, while they continued to develop at a rapid rate in the control plate. In this case the cultures were exposed simply to the influence of the cedar oil, no other agents being used which might effect their growth. Subcultures from these plates made after an exposure of seven days to the effect of the cedar oil paper showed that the organisms were not yet destroyed, although absolutely inhibited. This observation may possibly prove to be of some value in the treatment of blastomycetic infections.

SUMMARY.

1. This case is one of systemic blastomycetic infection and belongs to a class of which but a very few instances have been reported.

2. Parasites were demonstrated in the blood postmortem and dissemination evidently took place through this medium.

3. The lymph glands are remarkably free from infection.

4. In the lesions the parasites were found in immense numbers, and the inflammatory reaction in the tissues were of a remarkably slight degree.

5. The leucocytes of the blood and certain tissue cells contained large quantities of round pigment granules.

6. Parasites grow in the tissue only by budding, the forms appearing from five to fifteen microns in diameter; in artificial culture by segmented mycelia, lateral conidia, and in very old cultures a few budding forms.

7. There is a definite order of development of the parasite in the tissue, the younger forms having a densely staining protoplasm undergoing active cell division by gemmation; the older forms not deeply staining and not actively dividing, and containing spore-like bodies.

8. From the findings in the tissue it seems evident that sporulation occurs, five to fifteen spores developing in each cell where they are seen.

9. Organisms derived from teased tissues have been observed in hanging drop to produce mycelia within a few hours after they were removed from the tissue.

10. The effect of exposure to the *x*-rays was negative.

11. The effect of the actinic ray is doubtful because the element of heat was not eliminated.

12. The cultures covered with cedar oil paper died within one month. Those exposed for one week were completely inhibited from growth, but were not dead.

13. The organism fulfills the laws of Koch, guinea-pigs being more susceptible than rabbits.

14. The organism grows readily on all forms of artificial media used.

15. In gelatin liquefaction was produced after one month.

ANOPHTHALMOS.

REPORT OF A CASE.*

LAWRENCE R. RYAN, M.S., M.D.
GALESBURG, ILL.

The case of anophthalmos which I am about to report is not detailed for the purpose of deriving great clinical benefit from its consideration, but purely on account of its scientific bearing, and the possibility of throwing some light on the intrauterine disturbances that may cause the development of monstrosities.

Cases of anophthalmos are indeed rare, and cases of pseudoanophthalmos or microophthalmos are seldom enough seen to warrant us in presenting them to this scientific body. Aside from the complete absence of the eyeballs, other congenital deformities associated in this case are worthy of consideration. Then, too, the possibility of the influence of consanguinity in their causation makes it doubly interesting.

This case was brought to my knowledge in the following manner:

Sept. 7, 1894, I was summoned to a neighboring town to see a child about two months of age, which apparently had something wrong with its eyes. At a casual glance it seemed to be asleep, and aside from a tendency to anemia appeared to be fairly well nourished. On a more careful examination, however, anomalous conditions were brought to view. When I opened the lids I was astonished to find that there was not the faintest resemblance to an eyeball in either socket. The lids, palpebral muscles and orbits were perfectly formed. The lids were depressed exactly as in a case of enucleation of the eyeballs. The palpebral conjunction extended backward and made a complete sac. The most careful examination could not reveal anything that would indicate the presence of an eyeball, either large or small, nor did it appear that any retinal fibers had developed. I examined the child on several occasions during a year, but was unable to get any response to light stimulation. She slept during the day, but remained awake all night. This circumstance, however, is not uncommon with healthy children who have normal eyes. This girl lived until she was 3 years old and then died from enterocolitis. It was impossible to secure an autopsy. Therefore, any minute details or microscopic pathology can not be given.

There are those in the profession (and among them Fuchs) who deny *in toto* the possibility of an absolute anophthalmos, because in several cases eyes as small as a millet seed have been discovered by postmortem examination where anophthalmos was supposed to have existed. Of course, in this case in the absence of postmortem evidences we can not absolutely and conclusively prove our case. But from rational reasoning such an occurrence would seem possible. We have congenital deformities of all parts of the body, and there is no reason why failure in the development of the primitive ocular vesicle should not occur from some interference of nutrition. A few years ago the reports of the Royal London Ophthalmological Hospital gave ten cases.

During the course of the examination of this girl I found that she was deformed in various ways. The right external ear was smaller than the left. The meatus and internal ear were normally developed on each side. The hearing was abnormally acute, as is usually the case with the blind. Before she was a year old she could hear and recognize her father's footsteps long before any one else in the house, and would manifest her delight by clapping her hands.

The hands were flexed on the forearm at birth and the little and ring fingers of both hands were webbed as far as the second joint. By daily massage, however, the flexor tendons were relaxed and the hands and fingers could be fully extended and used normally.

At the lower third of both legs the bones were deformed and jogged, and large exostoses thrown out the same as in a case of fracture that had not been set. The tibia and fibula were involved alike. There was evidently an attempt at intrauterine amputation or arrested development of the extremities. At the time of examination, however, the bones were fully united and firm. Both feet were abnormally small. There were but four toes on each foot, and all the toes were webbed. In addition to this, both feet were inverted. There was marked varus, or equinovarus. Aside from these described deformities the child seemed normally developed. Mentally she was very precocious.

When such a train of congenital deformities occurs in the same child the profession as well as the laity are apt to attempt a solution of the difficulty. By the laity the condition is ascribed to one of two possible occurrences, namely, that the mother was scared by some animal or thing (in which event the child resembles the object that scared the mother), or it was produced by the near relationship of the parents. In this case the opinion of the laity may be set aside as far as the question of fright is concerned, for the mother had no remembrance of any such occurrence, and beside, the child bore no resemblance to a monster. On the other hand, however, the question of consanguinity enters largely into the case. The father and mother were first cousins. For those who recognize the possibility of deformities occurring in children whose parents are closely related, it opens a wide field for discussion and speculation. For my part I could never trace any physiologic or pathologic connection between deformities and consanguinity.

If we consider closely the nature of the deformities in this case we can easily see that whatever the cause of the uterine disturbance it affected the different parts of the fetus at practically the same time—that is, between the sixth and eighth week of gestation. It is true that the primitive ocular vesicle makes its appearance at the third or fourth week, but at the eighth the lens capsule is just beginning to form and the eye is just in the active point of development. At almost the same time the extremities begin to develop. At the fourth week we have the projection of the upper and lower limbs, but at the eighth week the thigh and leg can be distinguished. Up to this period the fingers and toes are webbed. Thus we have the absence of the eyeballs, which develop before the eighth week, and the webbed condition of the fingers

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Ophthalmology, and approved for publication by the Executive Committee: Drs. J. A. Lippincott, Frank Allport and John E. Weeks.

and toes, which also occurs before the eighth week, to prove that there was one great systemic upheaval, as it were, which arrested the development of the fetus at these points. What it was I will not attempt to say, for I was unable to elicit any information from the parents on this point. It may have been due to some displacement of the fetus in the uterus, or some temporary interference with the fetal circulation. It must have been temporary, for the fetus developed to full time without any further difficulty. Of course, the effect of some shock to the mother can not be overlooked.

Now as to the effect of relationship in these cases: Personally, I do not believe that *per se* it can have any effect. Two perfect physiologic beings ought to develop perfect offspring, other things being equal. The shortness of time, however, would preclude the possibility of going into this part of the subject in detail.

It is a well-known fact that breeders of stock inbreed closely if they wish to develop some particular trait in the animals, and especially a good trait. This is done with the most excellent results. However, there are few animals that have not some very objectionable characteristics, and these run along the line of heredity. To obviate the necessity or possibility of these bad traits developing out of proportion to the good ones it becomes necessary to cross the breed. For instance, a certain breed of horses are excellent trotters and also always produce good trotters, but they have bad tempers and become unmanageable. By too close inbreeding the vicious temper may more than keep pace with the development of speed, so the breed has to be crossed to secure a milder-mannered horse, even at the expense of a little speed. This condition will hold good among all classes of animals. A physiologically healthy man and woman, whatever the relationship, ought to produce healthy children.

The repugnance to consanguineous marriages is probably religious in origin, but has a basis of sound fact. People become diseased, and those who are closely related and dwell together are apt to develop the same diseases or defects of organization. The theory propounded above will also hold good here. Inbreeding among diseased or deformed humans will develop these deformities. For this reason it is a wise religious or political law that prevents it. It is a noteworthy fact that there are many degenerates and imbeciles among the royal families of the old country. This does not come, however, from the actual fact of relationship, but from the fact that syphilis, insanity and other diseases have been transmitted and developed at the expense of good traits. In many cases, however, remarkable genius has been developed in the same manner. The objection to marriage among blood relations has become so firmly fixed in the general mind that its influence may be felt. I can readily see that if a couple married who were closely related and the possibility of deformed offspring as a consequence of this relationship were brought repeatedly to the mind of a prospective mother, it might have some influence on the development of the fetus. I think there are few men in the profession to-day who are willing to deny *in toto* the influence of the mind on the body, and particularly the influence of the mother's mind on her child in embryo.

Both parents of this child were healthy and free from deformities. The mother was a primipara and 35 years of age. She was inclined to be anemic. The father was a large, rugged man, 55 years of age, unusually well preserved for his age. There was no specific history.

DISCUSSION.

Dr. Casey A. Wood, Chicago—Was the article referred to published in the Reports of the Royal London Ophthalmic Hospital by Lang in 1890? (Dr. Ryan answered "Yes.") I had something to do with the preparation of that article, and I thoroughly agree with Manz, who first made the statement that there is no such thing as a true anophthalmus. The primary optic vesicle forms so early that traces of it are almost always present, even if nothing can be seen or felt in the bottom of the orbit. In all the cases of anophthalmus so far reported which have been thoroughly worked out histologically some part of an eyeball has been found. I remember an alleged case of total anophthalmus, an account of which was published some years ago, in which it was stated, as conclusive evidence of anophthalmus, that nothing could be found at the bottom of the orbit by sight or touch. Of course, the primary vesicle does not constitute a developed eyeball, and in that sense the word anophthalmus might be a proper term to use for these cases.

Dr. J. M. Ball, St. Louis—In a case I have reported the child lived six months; the lids were perfect and there was a complete conjunctival sac. The appearance within the orbit was as if an enucleation had been done. The lachrymal glands were large and secretion was present. The whole subject has been worked out by Von Hippel and can be found in his contribution on the congenital anomalies of the eyes (Graefe-Saemisch Handbuch der gesammten Augenheilkunde). He has collected data in regard to the condition comprising 64 cases of double and 23 of unilateral anophthalmus. Most of them have been cases where postmortem examination was not permitted. Dr. Wood is correct in saying that in an ophthalmologic sense true anophthalmus does not exist, but clinically it occurs.

Dr. J. H. Claiborne, Jr., New York—Two years ago in New London I reported a case of double anophthalmus in which I reviewed the literature, and am much indebted for my knowledge to Von Hippel. I think Dr. Wood is correct, and yet we must have a name for the condition. If we separate the lids and find nothing we can surely say that it is a condition of anophthalmus. Double anophthalmus is more rare than single, and where it is double, as in the paper reported to-day, I think it should be studied with a great deal of care. The relation of the parents to each other is to be looked into. My case was the child of German parents, the father being much older than the mother. The child had no eyes; I could see to the bottom of the sacs. There was an imperforate nostril on one side and on one side the ear was lacking entirely, but there was an attempt at an external auditory meatus below. The father denied syphilis. I noticed one unusual sign, namely, a very high vault to the pharynx which was arched almost to a crevice.

Dr. S. C. Ayers, Cincinnati—I saw a case of so-called double anophthalmus a few years ago. The baby was several months old and, so far as I can remember, well formed. Between the lids nothing was visible except the smooth mucous membrane, just as though an enucleation had been done. I have in my neighborhood a young man with single right anophthalmus, the left eye being normal.

Dr. L. R. Ryan, Galesburg, Ill.—I simply present the clinical case, as I did not have the pathologic evidence. I do not see, however, why we may not have an anophthalmus, just as we may have the absence of any other part.

Fire-escapes and Tuberculosis.—The suggestion recently made by Dr. Alfred Meyer of New York, to utilize the fire-escapes of tenement buildings for the outdoor treatment of consumption, is an excellent one. The tuberculous poor would thus have the benefit of fresh air without the expense of leaving their homes. While the air in the streets of tenement districts is not to be compared to that of the country, it is certainly far superior to that which the patient would be compelled to breathe in a small room of a tenement house. The objection that might be raised that the use of fire-escapes for such purposes would be dangerous in case of fire is not an important one, for in such an event the patient would be the first to escape.—*Med. Age.*

CALCAREOUS DEGENERATION OF CORNEAL CICATRICES.*

H. MOULTON, M.D.
FT. SMITH, ARK.

Aside from, or in, association with hyaline degeneration (colloid of Saemisch), deposits of lime salts are described as occurring in the cornea, sometimes superficially, as in the so-called "band-like opacities,"[1] sometimes as infiltrates of small particles,[2] and, again, as larger masses in the form of plates[3] in old cicatrices. It is the latter type to which these remarks refer. Such cases are comparatively rare and clinical reports of them are rarer still. Some text-books do not mention them at all. I have seen but two cases, both occurring within the same month. As they present some interesting clinical features, I report them:

CASE 1.—Mr. J. T. W., age 52, a merchant of Indian Territory, referred by Dr. Miller, came Feb. 20, 1901. He had an adherent leucoma in each eye, which he stated originated in an attack of sore eyes in 1865. Until recently the vision of the left eye had been the best. Of late all near work had been given up because it was attended with pain, smarting and excessive secretion of tears in that eye.

The leucoma of the right eye covered the temporal half of the pupillary area of the cornea and involved the iris, but there was nothing unusual in its appearance.

The opacity of the left cornea, about 5 mm. in diameter, occupied the inferior nasal quadrant. In the center, where the iris was most intimately involved, appeared a dense chalky white area 2 mm. in diameter. Its surface was smooth and glistening and the probe failed to reveal any roughness. The eye was not red and its conjunctiva was healthy. There was a prominent pterygium.

Javal's instrument showed the right cornea quite irregular and the left cornea with 7 diopters of astigmatism with the rule.

Vision: R. E. 15/60 with +1.5=15/45; L. E. 15/100 with +1. S. ⌒ +3. cyl. axis 85=15/40.

The pupils dilated to atropin in a direction away from the adhesions, but as good vision was not possible after dilatation as before. As I did not wish to cut into an adherent leucoma without positive indications, and as the symptoms were mainly of asthenopia, I hoped the use of glasses would give relief. These I ordered. I also removed the pterygium at the patient's request, for he attributed his discomfort to its presence. For a short time there was relief and the patient could attend to his books and correspondence. But in three weeks he returned complaining as much as ever. In addition to the other symptoms there was now for the first time a feeling as of a foreign body in the eye. Yet there was no redness or secretion. Feeling sure now that the degenerated scar was the cause of irritation, under cocain I pushed a sharp instrument into the chalky white part of the opacity and encountered a gritty substance. It was covered by superficial scar tissue, which I cut away. The gritty substance in the form of a plate, the thickness of writing paper and like eggshell in appearance and feel, was dug out. It was 2 mm. in diameter, irregular in outline and corresponded to the dense white, sharply defined area before described, lying over and resting on the adherent iris fibers. A deep, undermined excavation was left with exposed blood vessels at its bottom. There was no reaction. Healing was prompt. Relief was perfect and lasting. V. with correction 15/30. The use of the eyes has been comfortable up to this time. Scar is smooth and appears like that of the other eye.

CASE 2.—Mrs. B. F. M., age 26, of Magazine, Ark., sent by Dr. Powell, came March 2, 1901, on account of pain in the left eye. Her right eye was normal. Her left eye was diseased when she was 3 years old, and from that time there has been a white spot on the cornea. Only during the past two years had the eye been painful. The pain was in paroxysms, lasting from three days to a week, with quiet intervals of corresponding duration. The pain was described as not that of a foreign body, but neuralgic in type, somewhat relieved when in the dark. It often drove her to bed. The eye was markedly divergent and presented a large dense cicatrix in the inferior nasal quadrant of the cornea involving the underlying iris. Its center had a chalky white area similar to that described in the previous case. The eye was not red, but flushed readily on examination. The fundus was visible through the temporal half of the pupil, with a pale and somewhat cupped disc. Vision: fingers at 1 foot; tension was plus. The glaucomatous symptoms led me to perform iridectomy, without relief, however, of the paroxysms of pain. Two weeks later I cut into the scar and dug out a calcareous plate, 1 by 2 mm. in area, almost identical with that of the first case. Healing was normal and there has been no return of the pain.

In both of the cases I felt certain at the first examination that the chalky white areas were the seat of degeneration, probably calcareous. The reasons they were not removed at once were: First, neither the probe nor magnifying glass revealed any break in the smoothness of the organic tissue overlying them; second, the symptoms were not such as usually are caused by a superficial foreign body, being in one case those of asthenopia, in the other more like those of glaucoma; third, there was some fear of exciting undue reaction by digging into an adherent leucoma, for merely exploratory purposes.

Later, the deposits in one case became partially uncovered, and gave rise to foreign body symptoms, at once indicating the proper procedure. In the other case I cut into the cicatrix, though its surface was still smooth, because the patient demanded relief, even if at the expense of the loss of the eyeball. It is now clear that the symptoms in both cases were due to the irritating effect of the hard substances resting on iris fibers deep in the cicatrices. We may conclude, also, that all leucomata involving iris, presenting a chalky area sharply outlined in contrast with the rest of the opacity, may be safely, and should be, cut into, even though the surface seems smooth. Are such deposits, *en masse*, found alone in adherent leucomata and not in those not involving the iris? That the masses removed were calcareous I take for granted from the statements of the books, but I regret that no microscopic or chemical tests were made.

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Ophthalmology, and approved for publication by the Executive Committee: Drs. J. A. Lippincott, Frank Allport and John E. Weeks.

1. Norris and Oliver: p. 346.
2. J. P. Nuel: System Diseases of Eyes (N. and O.), vol. iv, p. 238.
3. Fuchs: p. 195.

PRESENT STATUS OF THE PURIFICATION OF PUBLIC WATER SUPPLIES.*

GEORGE W. FULLER.
Sanitary Engineer.
NEW YORK CITY.

Ten years have elapsed since the beginning in this country of the epoch of practical accomplishments in the field of municipal water purification. To record and review briefly the more important advances that have been made during the past decade, and to indicate the results, conditions and tendencies as they stand today, is the object of this paper.

In 1893 the water filter for the city of Lawrence, Mass., was put in service. Up to that date comparatively little had been done in the way of purifying city

* Read at the Fifty-fourth Annual Session of the American Medical Association, in the Section on Hygiene and Sanitary Science, and approved for publication by the Executive Committee: Drs. S. Fulton, Seneca Egbert and H. M. Bracken.

water supplies in America; although it is to be remembered that in the early 70's several small sand filter plants were installed, notably at Poughkeepsie and Hudson, N. Y. They were built according to the plans of the late Mr. Kirkwood, following his investigations concerning sand filtration as then practiced in Europe.

Ten years ago mechanical filters attracted but little attention and were not looked on with favor by sanitarians and engineers. They were comparatively crude affairs in those days, representing but few of the improvements resulting from the transitional stages through which they have passed from their original form of mill or industrial filters to the types in which they are found to-day.

Prior to the construction of the Lawrence filter, the combined area of all filter plants then in existence in this country was not more than 1.5 acres, having a rated capacity of 4,000,000 gallons daily. The combined area of all mechanical filters at that time was about 12,000 square feet, having a rated capacity of about 35,000,000 gallons daily.

To those who have not followed closely the developments in this field of sanitary science it is almost inconceivable to look back and realize what uncertainty and differences of opinion prevailed concerning filtration as late as 1892. For some time prior thereto the medical and engineering journals of Europe had much to say concerning the outbreak of typhoid fever during the winter of 1889 in the eastern portion of the city of Berlin, where water consumers were supplied with filtered water from the old Stralau sand filters. At London a royal commission was engaged in an investigation of the future supply for the metropolitan district, and received testimony from many prominent sanitarians to the effect that, in their opinion, filtered Thames river water should be abandoned, and that new supplies should be obtained from mountain sources. In a number of European cities discussions were taking place as to improved water supplies, and many sanitarians urged that new supplies should be drawn only from pure mountain streams, or from ground water.

In view of the somewhat conflicting evidence at that time as to the merits of water filtration, there was conducted at the Lawrence experiment station, as is well known, a series of experiments, starting in with the use of very fine materials, including loam, and very low rates of filtration, giving conditions not much unlike those which had been studied shortly before at that place in connection with sewage purification. In this way evidence was gradually accumulated from tests made under various conditions as to coarseness of materials and rates of filtration, which led, in 1892, to the conclusion by the Massachusetts State Board of Health that the purification of waters as highly polluted with sewage as that of the Merrimac river could be successfully accomplished at a reasonable cost.

Opportunities for putting into practice the results of these investigations, and in the city where they were developed, came quickly. The several large cities in the valley in which Lawrence is situated, and including Lawrence itself, had suffered severely for a number of years from epidemics of typhoid fever due to sewage pollution in the Merrimac river, from which they obtained their public water supply. In the late summer of 1892 it will be recalled that Asiatic cholera appeared in New York harbor. It was the appreciation on the part of the Lawrence city government of the calamity that would befall them, should cholera become established temporarily in the cities situated on the Merrimac river above them, that caused them to take the initial step paving the way for an era of practical accomplishments in municipal water filtration. They placed at the disposal of the water board such sums of money as were available from their limited funds, and construction work was commenced. The Lawrence city filter was carried to successful completion under the guidance of Mr. H. F. Mills, engineer member of the Massachusetts State Board of Health and put in service in September, 1893.

Immediately following developments at Lawrence, Mass., came the first of quite an extended series of investigations as to the efficiency of different styles of filters, and under widely different conditions. The first investigations were made at Providence, R. I., under the charge of Mr. E. B. Weston, engineer of the water department there, and were directed especially to the efficiency of mechanical filters in purifying the Pawtuxet river water. This water is not muddy, but contains considerable vegetable stain and at times is subject to more or less sewage pollution. The Providence tests, which were made on a small scale, led to the conclusion, reached for the first time on data covering a considerable period of time, that mechanical filtration under reasonably favorable conditions would give efficient purification.

Following the Providence tests, a series of three investigations, namely, at Louisville, Pittsburg and Cincinnati, was made, showing the results which could be expected on a large scale in treating certain of the muddy waters of the South and West. The results of each of these investigations were made public in detailed reports during the years 1898-99.

As is well known, surface waters of the South and West ordinarily contain so very much more mud than do the waters of New England and most of the European rivers, where large filter plants have been established, that officials in charge of waterworks plants in the South and West were in former years exceedingly skeptical as to the practicability of filtration, not only on the ground of cost, but also of efficiency. The three investigations mentioned, covering a period of four years, and representing an expenditure of upward of $200,000, furnished information sufficient to place the subject of purification of ordinary muddy waters on a reasonably satisfactory basis.

Without going too much in detail into results of the investigations in question, it may be said briefly that they showed the limitations of sand filters in the treatment of muddy waters; the urgent necessity of preparing very muddy waters for filtration by the removal of mud by means of settling reservoirs and by coagulation prior to filtration by any method; the probable limitation to which plain subsidence could be advantageously carried with the types of water in question; the best available means of coagulation; and the suitability of filters, both of mechanical and sand bed types, in treating these muddy waters after the removal therefrom of excessive quantities of mud.

Following the investigations made on the Allegheny and Ohio rivers there were several other investigations, among which are those made in Washington, Philadelphia, New Orleans and Harrisburg. The Washington investigations have been published in detail, and were largely confirmatory of the results obtained at earlier dates. Those made at Philadelphia and Harrisburg have not yet been published in detail. At New Orleans there is just issuing from the press a detailed account of the investigations made under the direction of Mr. Geo. G.

Earl, who has described to you the general conditions in this city regarding the installation of a new system of sanitary works, including an improved water supply.

These investigations at New Orleans were conducted for about one year, beginning in the autumn of 1900, and were under the immediate charge of Mr. R. S. Weston. A brief summary of the results of these investigations is next given.

To appreciate the conditions of water purification of the Mississippi river at New Orleans it is necessary to bear in mind that the drainage area of this river comprises about 1,240,000 square miles, extending from the Canada line to the Gulf of Mexico, and from the Appalachian to the Rocky Mountains, the aggregate area representing more than one-half of this country. On this area is an urban population of over nine million people resident in towns having a population of more than 4,000.

Regarding the physical condition of the Mississippi river water at New Orleans, it may be said that it is turbid at all times. Records of the amount of suspended matter are available for seventeen complete years, fifteen of which are based on results of observations made by the Mississippi River Commission. The average amount of suspended matter as compared with that in waters elsewhere is shown by the following table:

City.	River.	Suspended Matter. Parts per mil. River Water.	Tons per mil. Gallons.
Lawrence	Merrimac	10	0.042
Albany	Hudson	15	0.062
Pittsburg	Allegheny	50	0.208
Washington	Potomac	80	0.333
Cincinnati	Ohio	230	0.957
Louisville	Ohio	350	1.480
New Orleans	Mississippi	650	2.70
St. Louis	Mississippi	1,000	4.16

While it is seen from the above table that the total amount of mud in the Mississippi water here is less than at St. Louis, it is a fact that the water at New Orleans contains a far greater proportion of submicroscopic clay particles. At St. Louis from 80 per cent. to 90 per cent. of the mud is so coarse that on an average it is deposited in settling basins holding twenty-four hours' flow. At New Orleans a basin of similar size would show a deposit of only about 45 per cent. of suspended matter, leaving in the settled water about three times as much very fine clay as would be the case in the settled water from below the mouth of the Missouri river.

The difficulty in treating the New Orleans water from the Mississippi river is apparent when it is stated that purification works for this city must remove on an average each day some fifty to sixty tons of submicroscopic clay particles, nearly all of which are smaller than bacteria, and many of which are not more than one-tenth the size of the latter. This is the most difficult feature to be contended with in the local purification works, as it can be stated that with the removal of the clay particles on a satisfactory basis the bacteria will take care of themselves, because, owing to their size, their removal is generally easier than are the last traces of these clay particles.

Another factor in this connection is that the hygienic condition of the raw Mississippi river water at New Orleans is better than one might suppose at first thought, after reflecting on the large population which drains into this river. As a result of more than 100 examinations of the water in volumes varying from one to three hundred cubic centimeters, the presence of the colon bacillus, the leading microörganism of the intestines, was detected only in three instances. These conditions are not so surprising when one stops to consider carefully that there are only about 45,000 people resident in cities which discharge all or part of their sewage into the Mississippi river within 600 miles of New Orleans and none within 130 miles. The remaining population of the Mississippi delta does not drain into the Mississippi, as the slope of the ground is away from the river.

Stating briefly the results of the New Orleans investigations, it may be said, first, that plain sedimentation for a period of three days, followed by slow filtration through sand beds, according to European practice, proved to be impracticable, because of excessive cost of cleaning the beds, and also of the fact that for many months at a time the filtered water would contain so much clay that it would be unsatisfactory for municipal use. Indeed, it may be said that if all the money available for the construction of the new system of waterworks in this city, including pumping stations and distributing pipes, were expended in the construction of settling reservoirs they could not sufficiently clarify the river water in order to prepare it adequately for filtration.

A procedure which was found to be successful is that involving the use of a coagulant to mass together the tiny clay particles into bunches of sufficient size so that they can be handled efficiently by sedimentation. Water so treated was studied in connection with both types of filter; that is, sand beds and mechanical filters.

One of the most important features studied in New Orleans was the economical and advantageous limits to which plain sedimentation could be carried; that is to say, the most practical division of work under local conditions between plain subsidence and coagulation followed by supplemental subsidence; and, further, the degree of clarification which it is advisable to provide for the water prior to its application to the filters. It was found that where sand beds are used the best arrangement consists of a plain settling basin holding twelve hours' flow on an average, followed by coagulating basins holding twenty-four hours' flow, from which the treated water, containing about thirty parts per million of clay would pass through sand beds at a rate of about 5,000,000 gallons per acre daily, or double the German standard rate. Where water is applied to mechanical filters, the best method consists of plain settling basins holding twelve hours flow on an average, followed by coagulating basins holding another twelve hours' flow, thus bringing the turbidity of the water as low as fifty to seventy-five parts per million, and so that it could be satisfactorily treated by mechanical filters at rates of from two to three gallons per square foot of filtering surface per minute.

Comparing the relative merits of these two types or systems of water purification it is found that the one involving the use of mechanical filters would be about $500,000 cheaper than the one involving sand beds; that the former would also be distinctly cheaper in total cost, involving both fixed charges and operating expenses; and that it would give a quality of water as to both clearness and hygienic conditions equal to that furnished by the other type of filter. Hence it was concluded to recommend the adoption of the so-called American system, involving the use of plain subsidence, coagulation and mechanical filters.

Regarding the question of coagulation, the New Orleans investigations were made with the use of sulphate of alumina, which it is proposed to use in practice unless it is found that a more advantageous chemical should

become available. In this connection it may be stated that the Mississippi river water always contains an adequate quantity of carbonates of lime and magnesia in order to decompose the coagulating chemical so that with a reasonable grade of supervision there is no likelihood whatsoever of undecomposed chemical entering the filtered water.

Another feature to be mentioned in this connection is the fact that the Mississippi river water does not vary with extreme rapidity in its composition, and hence the application of coagulant solution would be on a much more regular and uniform basis than in many places where the process has been considered.

It is possible to use compounds of iron for purposes of coagulation of waters like that of the Mississippi, but at the present time there is no information to indicate that they would be better or cheaper than sulphate of alumina. In the course of the Louisville investigations much study was given to the practicability of coagulating waters by electrolytic treatment in which there is obtained the hydrate of the metal used, that is, of iron or aluminum. These hydrates mass together the clay, bacteria and other particles suspended in the water in a manner similar to that effected by means of aluminum hydrate formed from the decomposition of sulphate of alumina. This electrolytic process, as the evidence now stands, is not only more expensive, but can be controlled much less readily than in the case of sulphate of alumina. Electrolytic processes, if they could be utilized in a practicable manner, would have two advantages: One is that they do not convert lime and magnesia from carbonate to sulphate, the latter of which is less desirable in water used for steam-raising purposes. The second is that such processes would overcome sentimental objections which appear to prevail in some communities against the use of sulphate of alumina in water purification. It is not definitely proven that some electrolytic process may not some day assume practical form, but there is no evidence now available to indicate such an outcome.

As to the question of the use of sulphate of alumina in water purification, the present feeling in this branch of municipal work is that it is not judicious to use it if equally efficient results can be accomplished at equal cost without it. There is, however, no evidence on record to indicate that harmful results follow its intelligent use, as is testified to by the actual experience of over 200 cities and towns in this country, with an aggregate population of about 2,000,000 persons.

The New Orleans investigations are undoubtedly entitled to a prominent place in the history of water purification, in that they show conclusively that works can be constructed successfully to clarify and purify waters charged to the highest known limits with submicroscopic clay particles, and at reasonable cost, coming within the financial limits of the average municipality.

Referring to developments in the general field of water purification, it may be said that recent practice points clearly to the advantage of much more thorough preparatory treatment of waters prior to filtration than was formerly the case, and to the use of higher rates of filtration than were previously considered advisable. This applies not only to the rapid method of the mechanical type of filter, but also to the sand bed type. In connection with the latter the use of preliminary or roughing filters has unquestionably much merit in the treatment of certain types of water, as shown by developments at Philadelphia and at Zurich. The future will undoubtedly show still further advancement in the successful use of double filtration, not only in the case of certain turbid waters, but also of waters highly polluted with sewage.

The use of ozone has received attention for many years in connection with water purification, especially concerning the endeavor absolutely to sterilize water as it is supplied to the consumer. Whether or not this is necessary or even desirable is very doubtful according to present evidence, and it is not likely that it will become a prominent feature in large municipal works for some time to come, owing to the cost of producing ozone or ozonized air in sufficiently concentrated form to effect sterilization. This is due partly to the expense of electric generating devices, and partly to the fact that ozone treatment, according to present indications, can be regarded only as a supplemental step following filtration, and not a substitute therefor. The reason why the application of ozone has to follow filtration is that it is essential first to remove the organic matter as far as possible from the water, thus reducing the quantity of the ozone required for sterilization purposes, to say nothing about needs for clarification.

Such application of ozone would prevent or destroy those growths of bacteria which, as well known, occur to a greater or less extent in the underdrains of sand filters, and occasionally in mechanical filters. As such growths refer without exception to harmless kinds of bacteria and not to disease-producing germs, there is no reason to believe that the cost for applying ozone for this purpose would be justifiable.

Regarding the treatment of surface waters stored in large ponds or reservoirs, and such as at times contain very objectionable odors or taste, investigations conducted at Springfield, Mass., in 1901, on the famous Ludlow Pond water indicate that it is practicable to make such waters satisfactory by double filtration through sand beds in conjunction with aëration.

As to the decolorization of swamp or marsh waters, experience has indicated that this can be accomplished by means of coagulating treatment, as is shown by the purification works in the city of Norfolk, Va. Without coagulant, such swamp or marsh waters can not be successfully freed from vegetable stain.

As a general proposition, it may be stated that in the light of present knowledge practically any water may be successfully purified by some combination of the various processes which have up to this time been studied with care, and at a cost ordinarily ranging from one-half to one and one-half cents per thousand gallons, depending much on local conditions.

In regard to the construction of purification works, material progress has been made in recent years, and many works recently designed are not only of a much more permanent and durable nature than in earlier designs, but they are especially improved as regards convenience and facility of operation. This particularly applies to mechanical filters, as is perhaps best shown by the plant recently put in operation at Little Falls, N. J., by the East Jersey Water Company. This plant, occupying about one acre in area and capable of producing 40,000,000 gallons of filtered water daily, is the largest completed plant in the country, although larger ones are in process of construction. The structures are entirely of concrete, and all devices, so far as practicable, are made automatic, or arranged to sound automatically a gong to call the attention of the operator to what is required. Hydraulic cylinders are attached to all valves and are operated by levers conveniently placed. Water and compressed air for washing the sand layers are

turned on and off by pressing a button, thus stopping and starting the motors operating the machinery.

Concerning sand filters, the improvements in design are not so striking, yet they are important, and should eliminate many of the complications encountered in the old-fashioned filters abroad where unsatisfactory results were occasionally obtained.

To gentlemen especially interested in the field of hygiene there is probably no question so important as that of the results accomplished by filtration in the reduction of water-borne disease among people using filtered water. In this connection the well-known experience with the Lawrence filter is very gratifying in that it has shown year after year, while in its normal operation, a typhoid fever death rate as low as that in the neighboring city of Lowell, which now derives its supply from pure underground sources. Similar experience has been gained at Albany since the completion of the very well-built sand filter at that place. As to mechanical filters very little experience has been gained with plants fully equipped with devices in accordance with the results of the investigations herein reviewed. The results of many thousands of analyses show that with both types of filters built and operated under favorable conditions there is practically no choice as to hygienic efficiency on an average. In winter mechanical filters are slightly superior, and in summer the reverse may be true.

At the beginning of the second decade of developments in this field it may be said that matters appear very bright indeed. The doubts and uncertainties of ten years ago have very largely disappeared. In Europe it has been learned that many of the former arguments against filtration were based on exceptional conditions caused by the arrangement of filters built fifty years ago. Progress there has been substantial, and we hear but little now of ground water or the mountain spring, except where such waters are obviously the most feasible. We have learned in this country that no such thing exists as a "cure-all," that is, a single type of purification works adapted to treat satisfactorily all types of waters; but we have also learned that purification works can be built to purify practically all types of water, and that satisfactory results can be predicted with confidence. That this confidence is shared by municipalities and citizens is shown by the great amount of construction work now going on and in early contemplation in this field, especially in the larger cities.

DISCUSSION.

DR. G. T. SWARTS, Providence, R. I.—The subject is one of the most important of those which come up for consideration before any health board, whether it be of a small township or of a large municipality. Sooner or later, almost every inland city is called on, through its health department, to make provision for a water supply of some sort, and the available sources are never what they should be. Filtration in a majority of cases, perhaps, will be required in order to put the water in good condition. This paper, dealing with the general drift of results, and giving a historical retrospect of all the different methods in a condensed form, makes it a valuable document, which will be eagerly read by sanitarians in general; and even those who are thoroughly familiar with all the details of the subject will be glad to find them given here in so condensed a shape.

It was very interesting to me personally, having visited the experimental plants in Louisville, Cincinnati and Pittsburg, to see the difference in the character of the waters and the facility, after a great deal of experimentation, with which these experts have handled a water which, as described by the previous paper, carries with it a material which makes a clay so fine that it admits of the introduction of a spade with facility, and yet is elevated with a good deal of difficulty. It is a matter that comes up here differently than it does in the northern cities. There is here a fine silt which it is difficult to dispose of, and which will quickly clog any known form of filter. It is a point of interest to us and to the layman, looking on the Mississippi River water, watching it as it flows into the tubs of the hotels, to think that the time will come when it will be possible to dispose of that silt and raw material, and to get a white, clear water, as pure as that of any artesian well in the country.

I am glad to hear Mr. Fuller emphasize the fact that the introduction of sulphate of aluminum is not such a bugbear as was thought in the matter of the introduction of mechanical filters. That is one of the greatest setbacks we have had in the north, where it was impossible to show the people the necessity or desirability of using a coagulant. Of course, it is not always necessary to do so; yet it is possible, as I understand it, to thus remove a greater amount of the color from waters which are discolored by decaying vegetable and animal matter, stumps, etc., than without a coagulant.

In the city of Providence, where we want to get fifteen to twenty million gallons of water per day, we endeavored to introduce the mechanical method, but failed in the effort from the simple fact that the city took a sentimental view of the matter, and also, unfortunately, of the attack made on it by physicians themselves, bringing up this objection to the sulphate of alum. They wanted the water filtered in the natural way, as Nature filters it, not stopping to think that the water from artesian wells has been exposed to all kinds of chemical changes for years. Their idea was that the water had to pass through sand, as that was Nature's method; and therefore sand filtration was adopted.

It was a surprise to me to learn from this paper (if I have correctly understood it) that the manipulation of the water supply of New Orleans would cost less if mechanical filters were used. Of course, that was a great pleasure to me, being interested in mechanical filters. Another point that struck me was the simplicity of the operation. It can be handled by fewer individuals. It is not dependent so much on detailed work, such as is necessary in sand filtration, where a large number of operatives are required, who may not be familiar with all the branches of the subject, and are liable to contaminate the beds while they are being scraped.

I would like to inquire, with reference to the possible or probable time within which this filtration can be established. I want to know this in order to be posted when I am quoting the grand advancement made in the water and sewerage system of New Orleans.

MR. GEORGE G. EARL, New Orleans—Three and a half to four years.

DR. W. C. CHAPMAN, Toledo, Ohio—The advance in this science has been so great that the people have not been able to keep up with it. For several years I have been interested in the water supply of Toledo. I find great ignorance regarding filtration. One of our principal endeavors should be to enlighten the people on the subject.

Dr. Swarts speaks of coagulation by alum, which is strongly opposed by many in our cities because it is ignorantly supposed the chemical remains in the filtered water. We are about to take steps in Toledo to filter our river water, and we have had Messrs. Hazen and Benzenberg investigate as to the possibility of getting good water and from whence the supply should be taken. We have two sources of supply: the Maumee River and Lake Erie. The difficulty we have had to overcome is that many think Lake Erie water is pure; that it only has to be drawn into the houses by pipes. Investigation shows this is not true, and that to get good water filtration must be employed. Lake water is impure; the lake, being very shallow, is merely a large catch basin for the surrounding country.

We must instruct the people on the subject of water purification. We have overcome prejudice to a great degree in Toledo, so that a plant will be installed which will be large enough to supply water for 350,000 people. The water has

been tested by the State Board of Health. The state bacteriologist finds Maumee water can be purified so as to be potable and therefore healthful.

In my opinion, the mechanical filter is best for rivers with much sediment. Our river is different from the Mississippi. It becomes very muddy after a storm or a freeze and thaw, but it usually clears itself in from forty-eight hours to three days, and we then have clear water until after another storm. Subsidence takes place easily and therefore the necessary coagulant will be small in quantity.

DR. E. B. BORLAND, Pittsburg, Pa.—We know from examinations made in the last two decades that almost any contaminated water can be purified to a reasonable degree. Mr. Fuller alluded to the real filtration material, of which I expected to hear more; I refer to the albuminous gelatinous material and bodies of bacteria which form the real filter medium. No doubt he took it for granted that we were all acquainted with it and therefore merely alluded to it. I find the public, the laity in general, have no idea of the principal or real factor in sand filtration; when the material which gathers on the upper layers of sand becomes too thick and dense the upper inch can be removed and cleaned. I don't recall that Mr. Fuller referred to the cleaning of the upper layer of the sand filter, but I have no doubt that he expected us to know and understand that such cleaning is necessary.

I have been considerably interested in the subject of sand filtration, though not as much so as in mechanical filtration. In our experiments in Pittsburg in 1897 and 1898 three mechanical filters were tested alongside of two sand filter beds. The summary of the bacteriologic test was as follows:

> The average bacterial efficiencies of filters on the respective systems, as developed by our tests, were an average of 99 per cent. for the sand filters, and from 97 to 98 per cent. for the mechanical filters. With the sand filters the efficiencies for the summer months and particularly those months when the number of bacteria in the raw water were highest, were very much above this average, reaching, during October, 1897, the remarkable efficiency of 99.96 per cent.

These experiments were carried on by the Pittsburg Filtration Commission, and an exhaustive report of 350 pages was made. The bacteriologist of the commission found as many as 57,000 bacteria to the cubic centimeter; and when there were 30,000 bacteria, 98 per cent, of them could be removed in the sand filters without a coagulant. The mechanical filters, as I have stated, with the coagulant made results of 2 per cent. less in efficiency, in the removal of suspended matter and bacteria.

Now, it has been said that the waters west and north have much less of this fine submicroscopic clayey material which Mr. Fuller and the gentleman who preceded him have emphasized. I can see why this factor demands attention in New Orleans and other cities in the south which are considering filtration. In Pittsburg, we have ordered the construction of sand filter beds, without the use of a coagulant, in accordance with the recommendation of the filtration commission.

DR. SENECA EGBERT, Philadelphia—I feel that this kind of work, represented by the papers we have heard to-day, is most highly educational, and that we ought to do all we can to disseminate such information. Much of the danger lies not in the cities but in what is being done in the country. There are many small towns whose water supplies can be very much improved by the adoption of modern methods of sewage disposal, as well as by improvements in the purification of the water. Almost every one of these communities would throw aside any suggestion of filtration, as being too expensive; but what we have to do, and the task that is specially incumbent on us, is to educate the profession throughout the country so they can make the local authorities realize that it is the highest economy possible to take these measures—not in ten years hence, but now—looking to the purification of the general water supply. Every town of five, six or eight thousand inhabitants ought to have clean water, and the cost is exceedingly small compared with the cost of sickness and mortality that result from typhoid fever and other diseases due to bad water. There is not a town in the country that could not improve its health status by attention to, and local application of, the teaching of just such papers as we have heard to-day.

DR. F. J. MAYER, Lafayette, La.—So far as Louisiana is concerned, I can assure this body that from the Arkansas line to the Gulf the average drinking water is hardly fit for human consumption; the principal source of supply in the country districts is from rivers and branches, shallow wells and cisterns. The water from the last named source, when caught in seasoned cypress cisterns during the winter season, the spring and summer supply being shut off by automatic cut-offs, is really the most potable water we have. Outside of the Mississippi River, our river waters are not wholesome, though palatable. The Mississippi River is the largest body of potable water in the world, and wholesome and palatable when properly treated. The proof of this is that ship captains find that it keeps better in the tanks of their vessels when precipitated with an ordinary coagulant than any other water; and in antebellum days the creoles of this city kept Mississippi water in urn-shaped jars holding about fifty gallons. They in this way secured a very potable water supply by adding about 5 grains of alum to the gallon as a precipitant.

In our larger inland towns, like Monroe, which is supplied by the Ouachita and an artesian well, it is difficult to determine which is worse for drinking purposes. Some years ago, when the Ouachita was very low, I found that the intake pipe was within a few hundred feet of a private sewer that emptied into the river. A bacteriologic and chemical analysis of the two waters by Professor Metz, expressed in parts per one hundred thousand, exhibited 94,876 bacteria per cubic centimeter. On plating some of the cultures evidences of the presence of the *Bacilli coli communis* were found; also organic and volatile matter, 3.6000; nitrite 0.0040; nitrates. 0.0669; mineral matter, 8.4500; total solids at 240 F., 11.8000. The artesian water, though brackish and containing volatile and organic matter: 5.7000 parts, and 72.1000 parts mineral matter at 240 F. was the least dangerous, owing to the absence of nitrates and nitrites, and of the *B. coli communis.*

The shallow wells, which really constitute the largest supply to the farming population, are absolutely unpotable, in many cases reeking with microbian filth, sometimes sparkling with nitrates and nitrites, the result of animal decomposition; and yet the poor, deluded farmer imagines that he not only has a healthful water supply, but thinks it has medicinal properties on account of the gas sparkling in it, and on account of the odor resulting from decaying vegetable and animal matter, which he attributes to the presence of sulphur. There is no excuse for this, for at a depth of from 60 to 270 feet an abundance of potable water is to be found all over the state. So I think, as the last speaker said, it is absolutely requisite and necessary to educate the general public on these facts with which we are familiar, but of which they know nothing.

DR. W. G. OWEN, Whitecastle, La.—Dr. Mayer mentioned the fact that one of our chief sources of supply, all through the southern portion of the state, is cisterns, the water coming from the roofs of houses, bringing with it all the dust and dirt accumulated through a long drought. I have found this a very potent factor in the dissemination of typhoid fever. In fact, I have seen one instance where three or four members of the family were attacked with the disease, which continued to spread until they began to boil the water. That ended all extension of the fever.

DR. E. B. BORLAND, Pittsburg, Pa.—In the experiments in Pittsburg, the mechanical filters were operated with a coagulant, and the sand filters without it. I have no prejudice against mechanical filters, notwithstanding that we have had political corruption, as have other communities. I think almost any Pittsburg citizen will say that ours was a representative commission. There were on it scientists as well as politicians, and men of a high degree of culture and integrity; and while we are inclined in Pittsburg, as elsewhere, to criticise public officials, it is the consensus of opinion that the commission was unbiased in its report recommending the

use of sand filters. I agree with the proposition that different treatment is required for different water supplies.

MR. GEORGE W. FULLER, New York City—Replying to the discussion of Dr. Borland, in which he mentions the gelatinous materials around the sand grains, it is true that this is characteristic of sand filtration as ordinarily practiced with the waters of Europe and the northern portions of this country. Around the sand grains there are formed gelatinous films, and at the slow rate at which the water passes through the pores of the sand, the bacteria and other matters suspended in the raw water are detained by them until, in the instance of the bacteria, many of them die. Of course, a large number of bacteria are removed when the upper portion of this sand layer is removed by scraping. These scrapings are from time to time necessitated by the surface of the sand layer becoming clogged to such a degree that the regular volume of water can no longer pass through the sand layers.

With the waters of the south and central west the conditions are somewhat different, in that the organic matter capable of forming gelatinous films around sand grains in the sand filter is absorbed to a large degree by the sand, silt and clay in the water itself as it flows in the stream. Consequently, this material, so important in the behavior of the sand filter, is lacking for the performance of the work in filters where it is needed more than in the case of European waters.

Removal of the silt and clay in the muddy southern and central western waters by means of sedimentation in large basins, in order to allow filters to operate economically, of course, eliminates this organic matter still further; and the influence which it might produce on a sand layer if the water were applied directly is therefore lessened. Combining all of these influences and conditions, it is found that it is an essentially different proposition to clarify and purify successfully a water which is highly charged with silt and clay and lacking in organic matter, from what it is to purify a fairly clear water which is capable of supplying organic material capable of producing gelatinous films by natural means around the sand grains in a sand filter. This, perhaps, may make it somewhat clearer why it is that in certain waters it is so essential to produce artificially the gelatinous materials for the detention and removal of bacteria, and such as is provided by aluminum hydrate resulting from the decomposition of sulphate of ammonia.

As to the question of the mechanical filters during the Pittsburg tests having shown somewhat lower efficiency in the removal of bacteria than in the case of the sand filters, it is to be borne in mind that the degree of bacterial removal by mechanical filters is largely a function of the quantity of coagulant applied. Had there been applied during the Pittsburg tests a somewhat greater quantity of coagulant, there is no reason whatever to believe that the removal of bacteria by the bacterial filters would not have equaled that obtained from the sand filters. During the development of our practical knowledge of mechanical filtration during the past few years, there is no feature the importance of which has grown on us so much as the imperativeness of providing at all times an adequate quantity of coagulant. In the early days of mechanical filtration on a practical scale this was not done, and to-day this criticism can be made of many plants. It also may be said very frankly that occasionally throughout the elaborate tests conducted both at Pittsburg and Cincinnati, the quantities of coagulant were not sufficiently high to place mechanical filtration in its best light.

Different waters unquestionably require different methods of treatment. For some waters sand filters are best, and for others mechanical filters are best, in each instance making due allowance not only for equal efficiency from a hygienic standpoint, but also for cost of installation and operation.

To Remove Perspiration Odor.—A dram of formaldehyd to a pint of water sponged about the genitals and axilla will remove the odor of perspiration. A stronger solution will check excessive perspiration and fetor of the feet.—*Medical World.*

MEATOTOMY PLUS MEATORRHAPHY.

JOHN PRENTISS LORD, M.D.
Professor Surgery, Creighton Medical College; Attending Surgeon, St. Joseph's Hospital, and Consulting Surgeon, South Omaha Hospital.
OMAHA.

The incision of the urethral meatus in the male often becomes necessary to allow of the passage of urethral instruments, especially for sounds and catheters of large size, for urethroscopes and cystoscopes, the segregator, etc. In the days when meatotomy was required for the passage of sounds principally this operation seemed to satisfy. But now that the surgeon must wait until healing of a meatotomy wound takes place before proceeding with his refined methods of diagnosis, the slow process of healing by granulation and the necessary daily separation of these divided surfaces which lie in contact and which reunite immediately unless torn apart by force, is tedious, usually bloody, and daily inflicts an amount of pain poorly borne by the patient, and the result is apt to be imperfect for obvious reasons.

The writer recognized these objections several years ago and began suturing meati whenever a meatotomy was done. Four or five 00 catgut interrupted sutures were used. The hemorrhage, which may be rather free

Figure 1.

Figure 2.

Figure 3.

or even serious in some cases, is immediately arrested. Healing has always been primary. The case requires no after-care, the patient is saved much suffering, the surgeon unpleasant and unnecessary responsibility, and it is unnecessary to divide the tissues so deeply to get the same results. If it is done to enable the surgeon to use the cystoscope, this instrument can be used in a day or two without blood smearing the lamp, which would interfere with the examination.

Works on surgery describe the operation of meatotomy and recommend the daily introduction of a sound to prevent union of the apposed wound surfaces; and recent works on genito-urinary surgery follow in the same rut.

An extended search by the writer fails to disclose any suggestion of meatorrhaphy. A considerable inquiry among the writer's friends also fails to find any use or recommendation of this simple measure, and the writer is surprised that he is obliged at this writing to consider himself its author. It has been practiced by him for several years, and not until his curiosity was excited by failures to find it done by others has he deemed the matter of enough importance to present it to the profession. It is herewith presented as a small contribution to surgical advancement, and even though in prior use it is desirable that attention be directed to so simple and

valuable an operation, evidently now unused by the profession, which is ever ready to avail itself of even the slightest detail of surgical technic that will add aught to the sum total in the refinement of its art.

Since writing the above, a renewed search has disclosed the following in Tillmann's work on surgery: "Stenosis of the external meatus with a corresponding difficulty in urination is comparatively common. This can be easily remedied by incising the meatus toward the frenum and suturing the edges of the glands to the mucous membrane of the urethra. In the more marked cases one may dissect up the urethral mucous membrane and then suture it to the skin."

Notwithstanding that this last paragraph destroys all claim of priority, which is after all but a small matter and one too much coveted, the writer feels constrained to bring this to the attention of the profession, believing that a service will be done thereby.

New Instrument.

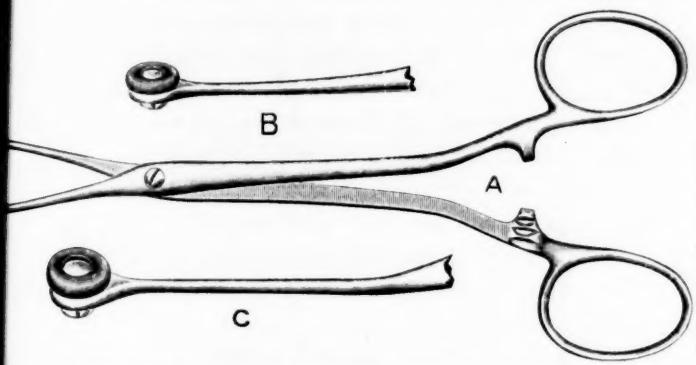
A RUBBER-JAWED INSTRUMENT FOR ABDOMINAL SURGERY.

CHANNING W. BARRETT, M.D.

Professor of Gynecology, Chicago Clinical School; Adjunct Professor of Gynecology, College of Physicians and Surgeons (Medical Department, University of Illinois); Assistant Surgeon Marion Sims Hospital.

CHICAGO.

Surgeons feeling the need of an instrument that would handle without injury the delicate abdominal organs and hold them firmly yet gently, have made efforts to produce such an instrument temporarily by wrapping the jaws of the forceps with gauze. This is troublesome and bungling. Rubber sheaths have been prepared, but these fit the forceps loosely, do not sufficiently protect the tissues from the serrations on the jaws, are insecure in their hold, etc. Instruments with flat, smooth surfaced jaws have been made, but they crush tissue or take an insecure hold.



A. The smaller forceps, two-thirds actual size. B. The jaw of the smaller forceps, actual size. C. The jaw of the larger forceps, actual size.

The accompanying illustration shows a forceps devised by the writer and used with great satisfaction. The shanks are constructed to give the proper spring, allowing the sensitiveness of touch to be used to the fullest extent. Two sizes are being made, for lighter and heavier work. The jaw consists of three parts: 1. The steel cup at the distal end of the forceps, its concavity looking toward the opposite jaw. 2. A moderately firm rubber disk, cupped on the opposing surface. 3. A screw and nut which fastens the rubber disk to the jaw. The nut is tightened on the external surface of the jaw so that the screw head on the internal surface is imbedded in the rubber disk, leaving a circular ridge of rubber to meet a like circular ridge on the opposing jaw, each with a cupped center. The forceps are so constructed that with the first catch on the handles the jaws just fail of meeting each other, coming together with the second catch and compressing each other with the third.

This, then, with elastic rubber jaws and light steel shanks, makes a forceps with which the delicate organs may be securely picked up without injury to the peritoneum or deeper structure. The rubbers will stand a number of boilings and when past their usefulness may be easily removed and replaced by another set. The construction of the forceps is such that the rubbers can not come off at an inopportune moment. It is surprisingly tenacious in its hold, even with the lightest bite, on wet, slippery tissues.

By the aid of these forceps one is enabled to do much of the abdominal surgery through a smaller opening or through the same opening with greater ease. The appendix, tube, bowel or ovary may be grasped and brought to the opening, using one finger as a guide. Should one bring up the wrong organ or tissue the grasp has done no harm; it may be released and another trial made. It is an efficient aid in suprapubic, double inguinal or vaginal celiotomy. It makes a useful instrument for holding the tube or ovary for resection, or the uterus for removal of fibroid. It may be used for picking up an injured ureter or a surgical gall duct or gall bladder. In pus tube it may be set on the broad ligament, leaving the pus tube between its shanks. A bowel may be held in the same way, setting the forceps on its mesentery. It lessens the amount of intra-abdominal manipulations, the instrument being used when otherwise the hand would be. I recall vividly the characteristically emphatic remark of the late Dr. Fenger to his assistant: "Don't I tell you a thousand times never to use your fingers when an instrument can be used?" This instrument does away with some of the necessity for rubber gloves and makes manipulation easier, providing they are worn.

It suggests itself as being useful for surgery in many other regions, if made in proper sizes and special shapes.

100 State Street.

The Contract Doctor.—The editorial in THE JOURNAL of the American Medical Association for April 11, 1903, entitled "The Battle of Clubs," should be read before every medical society throughout America, and serve as a clarion note of warning to the profession in this country, against the insidious but sure approach of an evil which, unless stopped, will sap the life blood of the profession, as it has done and is doing in Europe, where physicians are reduced to the degradation of making visits to well-to-do members of clubs for the beggarly fee of "8, 6, or even 4 pfennig" per visit. These clubs are organized with "the obvious object of reducing physicians' fees to the poor. Instead of being the recourse of the really poor, to whom a reduction of medical fees would be really justifiable, these societies are utilized by the well-to-do, thus defrauding the profession of its legitimate earnings." Now, in this country, as far as it has gone, it is even worse. Scores of societies, lodges and so-called protective and benefit associations have been and are being organized, not among the poor, but among well-to-do laboring classes and even including in their organization a class of more than well-to-do merchants and office employes. The principal aim of all these organizations is cheap medical service, with some benefits of secondary importance, while in many of them the object, pure and simple, is cheap medical service. In no other profession would such a condition of affairs be possible, and the cry of "commercialism" will not much longer be sufficient to quiet the protests that will come before our various societies, against the growth of this shameless, open underbidding of one alleged reputable physician against another, for the privilege of serving well-to-do people for a pittance. We, as a profession, all stand ready and willing to aid the suffering poor, and will always do more true charitable work than any other profession in the world, but charity does not demand that we make professional visits to people who are earning from forty to two hundred dollars a month for fifteen or even less than fifteen cents a visit and perform serious surgical operations for the same price.—*Northwest Medicine.*

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THE ROLE OF SODIUM CHLORID IN THE PRODUCTION AND TREATMENT OF EDEMA.

Always a puzzling problem to pathologists, the processes involved in the production of edema seem to have been in part clarified by progress in the application of physical chemistry both to theory and practice, and the results have been made to yield much of practical value in the hands of French and Italian clinicians. Several years ago Loeb urged the importance of osmotic disturbances in accounting for edema, as of more significance than the merely mechanical factors of increased vascular pressure. According to him, the chemical changes occurring in tissues with oxygen supply decreased through venous stagnation, accounted for far more of the extravasation of fluid into the tissues than did the increased filtration that might result from the heightened vascular pressure present in the capillaries in any passive congestion, no matter how severe. Under conditions of decreased oxidation the normal steps of metabolism are so interfered with that there results an accumulation of soluble substances. On account of their concentration in the fluids of the cells and the tissue spaces there develops a rise in osmotic pressure in the tissues which leads to diffusion of fluids from the vessels to bring the osmotic pressure of the tissues into correspondence with that within the vessels, and a condition of edema is produced. The importance of this osmotic pressure was shown strikingly by Loeb in the observation that osmotic changes could readily be brought about in the muscles, causing a pressure more than 200 times as great as the maximum rise in pressure that can be produced in the pulmonic circulation by completely occluding the aorta. Such a comparison serves well to give the person unacquainted with the enormous forces of osmosis an inkling as to their great power.

Edema of nephritis has been perhaps most commonly ascribed to an inability of the kidneys to eliminate fluids, which, retained in the body, waterlog it into a condition of edema. The high blood pressure of the renal disease might also have been considered as leading to increased filtration into the tissues, as is supposed to be the case in obstructive edemas, were it not that interstitial nephritis with its high blood pressure usually has less edema than the parenchymatous form with a lower pressure. Injury to capillary endothelium by retained toxic substances has been considered to cause abnormal permeability with accumulation of plasma in the tissues. But none of these explanations has been altogether satisfactory. Determination of the molecular concentration of the urine by means of ascertaining its freezing point or its electrical conductivity has added not a little to an understanding of osmotic conditions in various renal diseases and their importance. Rather unexpectedly, perhaps, it has been found that sodium chlorid excretion and retention has possibly more to do with the disturbances of osmotic pressure in the tissues than any other ingredient of the urine.

If sodium chlorid is administered by mouth to a healthy individual the elimination of the salt is found to correspond pretty closely to the ingestion. In nephritics, however, this is far from the case. With interstitial nephritis the reaction is quite variable—in some cases the elimination increases and in some it does not, just as we have interstitial nephritis with and without edema. In parenchymatous nephritis, however, in which the predominating changes are in the secreting cells, the sodium chlorid output, generally much below normal, is not increased nearly in proportion to the amount taken in, and often there is no response at all. That the edema of nephritis bears a direct relation to this sodium chlorid retention is shown by the effect of administration or withdrawal of the chlorid from the diet of patients with edema. Deprivation of salt nearly always leads to a marked decrease in the edema while administration of salt is as promptly followed by increase in the swelling. Widal experimented with one patient, and by dietetic measures alone was able to alternately increase and decrease the amount of edema no less than nine times in a period of 62 days.

From these observations it would seem that in parenchymatous or epithelial nephritis the cells are less than usually permeable to sodium chlorid, as well as to other substances to perhaps a different degree. The sodium chlorid, accumulating in the blood, prevents elimination of water which is retained to keep the molecular concentration as nearly normal as possible. In other words, the water is retained not so much because the kidneys are at all impermeable to it as because they are impermeable to the salt. And, conversely, it is incorrect to assume that in parenchymatous nephritis the small excretion of solids is due to an insufficient elimination of water to carry them out. As the edematous fluids of the tissues have been found to contain more chlorid than the blood serum, it may be that the tissues have a greater affinity for the salt than has the blood, and as it accumulates in the tissue the water will accumulate there likewise.

Application of these facts to the treatment of edema has been most profitable. A diet poor in salt has been found very effective in the treatment of the dropsy of parenchymatous nephritis, and perhaps the best of such diets is milk. The success attained by the empirical use of milk is thus found to be due principally to its low

content of salt. It is not a matter of quantity or quality of albumin in the diet, for a meat diet without salt will decrease edema as quickly as a milk diet, while the addition of salt to the milk will cause the edema to recur rapidly. The French physicians who have given this matter its most complete test advocate the selection of certain cows for the milk supply and depriving them of salt, although this is not by any means essential for good results. Since the salt and not the albumin is the important factor in the diet, it is possible by judicious choice and preparation to secure quite a wide range of diet for the nephritic. Nor is parenchymatous nephritis alone to be benefited in this way. In cardiac dropsy, which was formerly supposed to be entirely a matter of increased blood pressure effects, the elimination of sodium chlorid is greatly impaired, apparently because of alterations in the renal epithelium resulting from the vascular stasis. Interstitial nephritis accompanied by dropsy is, of course, also to be considered in the same category, and in both of these good results have been obtained by the process of "dechloridation." In typhoid, pneumonia, and some other febrile diseases, there is also a retention of chlorids, whether from renal alterations or some other cause is not known. On this account it occurred to Chantemesse that the phlegmasia alba dolens of typhoid might be to a large extent the result of this hypochloruria, and he treated several patients on this basis with excellent results. The thrombosis itself, which he considers as rather a predisposing than an actual cause of the edema, seemed to disappear with great rapidity under this treatment. Again, the determination of the power to eliminate sodium chlorid, particularly the reaction of the elimination to changes of diet, is of much prognostic value. Courmont considers it of more value than the methylene blue test as an indicator of renal condition. Although so far this method of treatment has been chiefly utilized by the French and Italians, it promises so much relief, and is so entirely in accord with the facts already obtained both empirically and experimentally, that we may hope for more extensive application and reports as to its limitations.[1]

THE ANTITUBERCULOSIS CRUSADE.

The first lecture under the auspices of the Phipps Institute, Philadelphia, was delivered by Dr. E. L. Trudeau of the Adirondack Sanatorium. It was a happy idea to open the public campaign against tuberculosis with such an utterance[2] by a man to whom we owe more than to any one else—we think we can safely say—the movement for the sanatorium treatment of consumption in this country. Within only a few years have most of the institutions of this sort come into view, but the Adirondack Sanatorium under Dr Trudeau began as early as thirty years ago, when he, himself a seeker for health, sought the salutary climate of the Adirondack wilderness. The history of his efforts and the building up of the institution over which he now presides from its small beginning to its present development and international reputation is intensely interesting. It is a record of persistent effort and we may say of heroic philanthropy. The amount of self-sacrifice involved can be conceived best when we understand that the support of the institution from the beginning has depended on Dr. Trudeau's efforts, aided, as he says, by the able and often disinterested and self-sacrificing friends and assistants that from time to time he has had to call to his aid as the institution enlarged. He has kept the expenses to the patient within the limits of moderation notwithstanding the cost, and an annual yearly deficit has been made up to him by subscriptions from grateful ex-patients and whole-souled wellwishers of their race in the eastern cities. The therapeutic success of the institution has far outweighed its financial success. He shows that at least one-third of his patients have practically recovered and still a larger proportion have had their disease arrested or been materially improved. It is only a few years since the popular and even the medical idea of tuberculosis was that recovery from the disease was at best a happy accident and that therapeutic means, aside from certain climatic influences, were practically unavailing. If any one has helped to show the falsity of this idea in this country it is Dr. Trudeau.

Not the least interesting part of his lecture is the history he gives of his scientific work in the study of tuberculosis, in which he was practically a pioneer in this country as well as in the sanatorium treatment of the disorder. It is unnecessary to say that his work has been fruitful and that he anticipated in many respects the later work for which so much credit is now being given to Behring. That this work was done with the small facilities at his command is another instance of the often-demonstrated fact that the born investigator is to a certain extent independent of the highly-organized and elaborate facilities which modern research now seems to demand. Now, however, that Dr. Trudeau and his assistants have a well-appointed laboratory, we shall look for still better and more complete work in the future. Not the least important feature of the sanatorium work for which the Adirondack institution is largely responsible is the education of the public that it affords. It has been a sanitary missionary agency of the very highest rank and the lessons it has taught have not been confined to its immediate neighborhood or to this country alone, for wherever the treatment of tuberculosis is discussed the Adirondack Sanatorium results are quoted.

Whether or not we agree with some sanguine workers that our efforts are toward the complete eradication of tuberculosis as a scourge of humanity, there is no ques-

1. Original papers, several of which have already been abstracted in THE JOURNAL, can be found in the Bull. Soc. Méd. des Hôp. de Paris, June 12 to 26; the Lyon Médical, July 12 and 19; Semaine Médicale, June 24 and July 29, and others later, all of this year.

2. Medical News, October 24.

tion that the intelligent efforts now being made have already robbed this disease of many of its terrors and promise to still more reduce its mortality and render it, possibly in the not too distant future, a comparatively negligible factor in the death rate in civilized communities. Dr. Trudeau's lecture stands, therefore, as a sort of landmark showing what has been done and giving promise of what is yet to be done. A series of lectures of which it is the opening one will be continued, we understand, monthly, by such men as Drs. Osler and Gibbs of this country, and Pannwitz and Maragliano from abroad, with possibly Drs. Calmette of Lille, or Dr. William H. Welch, in addition.

It is not simply the outdoor life at the sanatorium, as Dr. Trudeau has in his practice and teaching all along pointed out, but also the close medical care and supervision, guided by thoroughly scientific study of the disease, that is required to rescue the victims of consumption and make the disorder itself less harmful. The publication of these lectures will go far, we think, to instill correct ideas in regard to the disease; there is need of this, for even in the profession itself there are many exaggerated and irrational notions extant in regard to its dangers and its avoidance. A crusade against tuberculosis, to be effective, must be thoroughly rational and must not be vitiated in any degree by the exaggerated and panicky fears that are encouraged by some of the writers on the subject. Dr. Trudeau has long pointed out by his Saranac experience that the dangers of communication of tuberculosis are easily avoidable, and he has also demonstrated that the established disorder itself is to a large extent amenable to therapeutic means at our command.

MEDICAL ASPECTS OF THE CHILD LABOR QUESTION.

At the recent annual meeting of the National Conference of Charities, Mr. Frederick L. Hoffman made some statements which are of interest to physicians. Mr. Hoffman is the statistician of a well-known life insurance company which makes a specialty of what is called industrial business, i. e., insuring working people and children for small amounts. His paper was entitled, "Medical and Social Aspects of the Child Labor Question." His first point is the lack of definite, trustworthy statistical evidence as to the effect of early labor on the physical and mental development of children, yet, as he reminds us, it is entirely practicable to obtain such evidence, and he urges that the whole matter be made the subject of a governmental inquiry. He says:

> The available statistical evidence, while not as complete as would be desirable, seems to prove conclusively that occupations with a trade life commencing very early, such as the textile industries, potteries, etc., experience an excessive death-rate at ages 15 to 24, and in many instances throughout life. . . . The laws of growth and the relation of health to growth are now so well understood that it would not be at all difficult to ascertain whether children employed at different trades are really physically injured, or stunted in their growth, or hindered in their development, physically as well as mentally, by such employment. It certainly would appear to me a paramount duty not to legislate along radical lines unless the basis of such legislation is all-convincing and established beyond the question of a possible doubt.

He also points out the fact that certain injuries and defects at least accompany the early school attendance of children, and in this connection he quotes Dr. Johnston of Washington, D. C., who believes that school instruction is commenced at too early an age, and who sums up the evidence thus far gathered as to the effect of school life in causing eye troubles, headache, sleeplessness and minor nervous disorders, and suggests that the beginning of formal school instruction should be at the age of 8 years, with the hope of avoiding overstrain of immature organisms.

On this subject, as well as on the subject of early child labor, there is much popular discussion of a very earnest sort which, however, entirely lacks a basis of carefully ascertained and analyzed facts. Mr. Hoffman is certainly right when he says that we need a body of reliable statistical evidence as to the effect of mental and physical labor of various kinds on the development of children. It is understood that a request for the appointment of a commission to obtain such evidence has been submitted to President Roosevelt. It is comparatively easy to secure the appointment of a federal commission, but not so easy, as experience has shown, to obtain from it the results its promoters desired. In this case if a commission were secured it would be especially the duty of the medical profession to urge the necessity for employing in such work the best scientific methods. A well-selected commission with adequate powers could certainly make a valuable contribution on which for a long time to come all efforts for reform in the legal protection of children should be based.

EUTHANASIA.

Every little while some misguided philanthropist comes out with a proposition to shorten the period of suffering of hopeless invalids, by gently putting them out of the way. The latest is from a New York clergyman in an address before a medical body. It is said that about one-third of the audience applauded him, but the applause, we take it, was not shown for this particular sentiment, but for the orator or the oratory. There is only one point of view the medical man can take on this subject, viz., that he has no right to trifle with a human life or shorten it by a second. Surely no thinking person can take any other stand. If it should be considered right to assist people out of the world on the pretense of saving them from suffering, the possibilities of using this plea by unscrupulous persons would become appalling. There are enough ways to relieve suffering without compromising life, and only such are legitimate. It is true that some people seem to live too long and that, on a purely utilitarian basis, old people past their productive period could be easily disposed of, but this is not the tendency of modern civilization. Any civilization that adopted such a course would be taking a long step backward toward savagery.

BRITISH AND AMERICAN ENGLISH.

There is a certain formula in use by the British reviewer of American books that reads something like this: "The English reader will, of course, be offended by the eccentricities of spelling affected by our transatlantic confrères," or something to that effect. It is interesting, therefore, in this connection to note a comment by the editor of one of our British contemporaries[1] which in a way criticises the spirit of conservatism in regard to all suggestions toward a simplification of the orthography of the language. It has its little fling, saying that "our American cousins, having no history and possessing no proprietary right to the language, being, in fact, only lodgers, so to speak, display no sort of reluctance to tamper with the ridiculous redundancies which our forefathers have bequeathed to us, and which our schoolmasters persist in maintaining to the discomfiture of the scholars and the curtailment of more useful studies." Aside from the little inaccuracies as to our proprietorship in the language, etc., the sentiment of the above quotation is good and "ridiculous redundancies" especially so. English as it is written in England, as well as "English as she is spoke" in that island, has its defects, and in neither case is it always and in all respects the best type of the common language of the Anglo-Saxon race. The British editor suggests that whether his countrymen like it or not, they will ultimately have to adopt the abbreviated transatlantic orthography. We hope that the change will be an earlier one than he seems to anticipate. It will not require any serious alteration of the mother tongue to make it a little less cumbrous in its spelling than is the prevalent insular British practice.

PLAGUE TREATMENT BY CARBOLIC ACID.

The ordinary dose of carbolic acid is usually given as from 1 to 3 drops, and 6 or 7 drops have been reported as producing very unfortunate symptoms, while half a dram is said to be almost inevitably fatal unless met by immediate adequate treatment. Nevertheless, we occasionally hear of what seems to be excessive dosage of this powerful agent. The Baccelli treatment of tetanus is an instance of rather heroic dosing, but the most remarkable usage of the remedy is reported from China in the treatment of plague. In a communication which is editorially noticed in the *Journal of Tropical Medicine*, October 1, Dr. J. C. Thompson reports treating cases of plague in Hong Kong with carbolic acid and in quantities of 144 gr. daily, divided into bi-hourly doses of 12 grains each. With these enormous doses he said he expected to see evidences of carbolic acid poisoning frequently appear, but it was practically unknown in his cases. In a few cases carboluria appeared, but the remission of one or two doses caused the symptoms to cease. Given well diluted, dyspeptic symptoms did not appear. As the result of his observations in 143 cases he believes this is the most hopeful method of treating plague thus far tried in Hong Kong and that carbolic acid is of undoubted value when given in doses sufficient to allow its concentration in the blood to exert its antiseptic action on the bacilli. It is not considered by him, however, as a specific remedy, but as an important aid in the treatment of this so generally fatal disorder. It is a matter worthy of investigation to determine, as the editor of the *Journal of Tropical Medicine* says, whether the toleration of these heroic doses by plague patients is a peculiarity of the disease or whether we must revise our ideas of the toxic character of the drug. We know that in many conditions a remarkable tolerance to certain agents is obtained and there is probably no reason for us to alter our ideas as to the dangers of carbolic acid under ordinary circumstances. If, however, the drug proves to be of as great value as these experiences indicate, the discovery is an important one.

[1] Med. News and Circular, October 7.

Medical News.

ALABAMA.

Did Not Report Smallpox.—A negro employe of the Mobile postoffice was fined $10 for failing to report to the board of health the presence of smallpox in his family.

College Loses Appropriation.—The governor failed to sign the bill appropriating $20,000 to aid Mobile Medical College. He declared that he did not believe the bill received the constitutional majority, and that, further, he did not see that the source of the money had been provided.

Quarantine Ends November 1.—At a meeting of the Quarantine Board of Mobile Bay, the action of the Louisiana Quarantine Board was agreed to, which lessens, after October 15, quarantine regulations applying to Central American ports, and practically abolishes quarantine after November 1.

Personal.—Dr. Frank A. Lupton, Birmingham, has been elected a member of the board of censors of the Jefferson County Medical Society, vice Dr. Edward P. Riggs, resigned. ——Drs. Emmet K. Moon, Anniston, has been appointed county physician and Dr. William B. Arbery, Jacksonville, has been made physician to the county poor house of Calhoun County.

Colleges Open.—The Medical College of Alabama, Mobile, opened for its thirty-eighth annual session, October 8. Dr. George A. Ketchum, dean, delivered the address.——Birmingham Medical College opened for its tenth annual session, October 1. Dr. Benjamin L. Wyman, dean, Dr. Russell McW. Cunningham, lieutenant governor of the state, and Dr. John C. Le Grande, were among the speakers.

CALIFORNIA.

Anti-Expectoration Ordinances.—Ordinances prohibiting expectoration on sidewalks in San Rafael, under penalty of $25 fine, and on public conveyances in Sacramento under penalty of $50 fine, have been introduced.

Physician Exonerated.—Dr. R. E. Freeman, San Jose, against whom a complaint for performing a criminal operation had been made, has been discharged from custody, the preliminary examination having failed to sustain the charge.

Hospital on Wheels.—The San Pedro, Los Angeles and Salt Lake Railroad has added a hospital car to its equipment, fully equipped with medical and surgical supplies, and provided with an operating room, dispensary, private rooms and a ward.

Damage Suit Collapses.—In the suit brought by Martin Lathrop against Dr. Samuel J. Hunkin, San Francisco, in which the plaintiff claimed $50,000 damages for alleged malpractice, the plaintiff failed to appear, and the judge ordered a verdict for costs for the defendant.

Santa Ana Hospital Association.—At the annual meeting held October 9, the board of managers was re-elected, and Dr. John L. Dyer was elected president; Dr. Howard S. Gordon, vice-president; Dr. James P. Boyd, treasurer, and Dr. Charles D. Ball, secretary. The capital stock of the association was increased from $10,000 to $25,000.

San Joaquin Valley Medical Society Meets.—At the sixteenth semi-annual meeting held in Fresno October 13, the following officers were elected: President, Dr. James A. Moore, Hanford; vice-presidents, Drs. Robert E. Bering, Tulare, Harry W. Taggart, Stockton, and R. O. P. Phillips, Kingsburg, and treasurer, Dr. Thomas M. Hayden, Fresno. The secretary and assistant

secretary held over. After the meeting the society was banqueted by the Fresno Medical Society.

College Year Begins.—The College of Medicine of the University of Southern California, Los Angeles, opened for the fall term, October 8. The following changes in the faculty are announced: Dr. Walter Lindley, professor emeritus of gynecology; Dr. Carl Kurtz, professor of, and Dr. Wesley W. Beckett assistant in gynecology: Drs. David C. Barber, George L. Cole and W. Jarvis Barlow, professors of clinical medicine; Dr. Joseph Kurtz, professor of therapeutics; Dr. Randall Hutchinson, assistant professor of physical diagnosis; Dr. Stanley P. Black, professor of histology and pathology, and Miss E. L. Leonard, lecturer on histology and pathology.

Personal.—Dr. John R. Haynes, Los Angeles, has returned from England.——Dr. Andrew W. Hoisholt of the state hospital staff, Stockton, has returned from Germany.——Dr. Titian J. Coffey, Los Angeles, has returned after six months in the east.——Dr. Oscar W. Steinwand has been appointed city health officer of Selma.——Dr. and Mrs. Peter Jauss, Los Angeles, have returned from a six months' tour of northern Europe.——Dr. William J. Young, Stockton, has returned from Germany.——Dr. Joseph W. Jauch has returned after a four months' sojourn abroad.——Dr. and Mrs. F. R. Orella, San Francisco, have returned from Europe.——Dr. Albert S. J. Smith, San Jose, has gone to Europe to study for a year.

CONNECTICUT.

Personal.—Dr. Charles S. Stern, Hartford, chief medical inspector of the board of health, has resigned, and will go to Europe.

Forfeits Bail.—Dr. Edmund I. Thomson, New Haven, charged with performing a criminal operation, was not present when his case was called, and his bond of $1,500 was declared forfeited.

Connecticut Members of the Association.—At the second annual meeting of Connecticut members of the American Medical Association held at Savin Rock, October 13, Dr. Charles J. Fox, Willimantic, was elected president; Dr. Gustavus Eliot, New Haven, vice-president, and Dr. James M. Keniston, Middletown, secretary.

Gives Hospital to Greenwich.—Robert E. Bruce and his sister Sarah E. Bruce of Greenwich, have given a plot of land for a contagious disease and emergency hospital to the town. On the land are four buildings, one for smallpox, two for other contagious diseases and one to be used as an emergency hospital. The property is valued at $75,000.

DISTRICT OF COLUMBIA.

Barnes Hospital Addition.—An addition to Barnes Hospital at the United States Soldiers' Home has been contracted for at a price of $190,131.

Army War College Building Recommended.—The Secretary of War will recommend to congress an appropriation of $300,000 for the erection at Washington of a general military hospital and a similar amount for the Army War College.

Medical Supervisors Want Pay.—The board of medical supervisors and the various medical examining boards do not wish to serve longer without pay and they have asked for an appropriation of $2,500 from congress in order that the supervisors and examiners may each be paid at the rate of $10 for every meeting attended.

Health of District.—The report of the health officer for the past week shows the total number of deaths to have been 102, of which 65 were white and 27 were colored. There were 68 deaths, of which 38 were white and 30 were colored. There were 16 cases of diphtheria, 19 of scarlet fever and 210 of typhoid fever under treatment at the close of the week.

GEORGIA.

Offers to Take Father's Place.—Dr. Walter P. Rushin, Albany, has written the governor offering to serve out the life sentence for murder for which his father is now imprisoned in the state penitentiary.

College Opens.—Georgia Medical College, Augusta, opened for its seventy-second annual session, October 1. Dr. James B. Morgan delivered the address on "Higher Medical Education and the Prevention of Disease."

Smallpox in Middle Georgia.—Dr. H. F. Harris, secretary of the State Board of Health, reports that he found smallpox in every town he visited during a two weeks' tour of southern middle Georgia. He urges compulsory vaccination.

Fatal Hospital Fire.—A fire in the Grady Hospital, Atlanta, destroyed the male and female wards for colored people early on the morning of October 17, and only prompt and heroic action on the part of the hospital staff and employes, firemen, police and citizens prevented great loss of life. One negro woman, who was very sick, died after her removal from the hospital.

ILLINOIS.

Wabash Hospital Open.—The Wabash Middle Division Hospital, Decatur, was opened to receive patients October 5.

Hospital Dedicated.—The new addition to St. Elizabeth's Hospital, Danville, was dedicated, October 13, with appropriate ceremonies, following which a banquet was served to the staff and the visiting clergy by the Sisters of St. Francis.

Personal.—Drs. Henry W. Kendall, Quincy, and Albert G. Pickett, Chicago, were elected medical advisers of the Fiftieth Illinois Infantry, at its recent reunion.——Dr. Walter J. Brown, Danville, has been commissioned first lieutenant and assistant surgeon in the Illinois National Guard, and assigned to the artillery battalion.——Dr. Thomas N. Miller, Rockford, fell from a tree, October 8, and injured his spine.

Smallpox Thriving.—Dr. Joseph E. Kunkler, Bloomington, reports 23 cases in two public schools, the schools were ordered closed and an ordinance providing for compulsory vaccination was introduced in the city council, October 23.——Westfield has 17 cases in the isolation hospital, and a number quarantined at home. Public meetings have been prohibited and the public schools closed.——Dr. Heman Spalding of the Chicago Department of Health, after inspection of the situation at Lemont, reports that there are at least 25 cases there. Schools are closed and public meetings forbidden.——Belleville is reported as having 25 cases, with 4 deaths, and Freeburg, 3 or 4 cases.

Chicago.

An Award of Twenty Per Cent.—In a suit for $5,000 brought by Dr. Alexander Hugh Ferguson against Frank L. Loring and wife, for services rendered, the jury awarded the plaintiff $1,000.

Increase in Diphtheria.—Diphtheria continues to increase—106 cases being reported, as against 89 during the previous week. Reports come from all parts of the city, but the northwest section is most affected. Measles, scarlet fever and whooping cough are at a minimum.

The Week's Mortality.—For the week ended October 24, 442 deaths were reported, an annual mortality rate of 12.21 per 1,000, which compares favorably with 12.68, the rate of the previous week and 13.83, the rate for the corresponding week of 1902. Consumption, as usual, leads with 52 deaths; pneumonia follows with 49. Other principal causes were violence, 40; Bright's disease, 38, and heart disease, 32.

"Murderous Pneumonia."—In the current issue of the bulletin of the Chicago Department of Health is the following:

> The community is again facing the beginning of the murderous pneumonia season. Between the last of this month and the close of next May upward of 2,100 persons will die of pneumonia in Chicago, while from consumption—the "great white plague," which is practically monopolizing the attention and the efforts of the laborers in the field of preventive medicine—there will hardly be more than 1,300 deaths during the same period.
>
> Since the beginning of the last great pandemic of influenza, in 1889, there have been 33,861 deaths from pneumonia in this city and 29,980 from consumption—an excess of 11.4 per cent. of pneumonia mortality. During this period, that is, the last thirteen years, 1890-1902, the deaths from pneumonia have increased from an average of 117 in the 100,000 of population during the previous thirteen years, 1877-1889, to 179—an increase of nearly 53 per cent. Corresponding figures for consumption are 171 per 100,000 in the first period and 160 in the second—a decrease of a little more than 6 per cent.

MARYLAND.

Personal.—Dr. William L. Lewis, Kensington, has been appointed health officer for Montgomery County and secretary of the board of health in place of the late Dr. E. E. Stonestreet.

Baltimore.

Historical Club Election.—At the Johns Hopkins Hospital Historical Club Dr. Eugene F. Cordell was elected president and Dr. Thomas B. Futcher, secretary.

Deaths for the Week.—There were 171 deaths last week in the city, an annual rate of 16 per 1,000. There were 4 deaths from typhoid fever, and 9 from diphtheria.

Physician Wins Suit.—A suit against Dr. Edward J. Bernstein for $10,000 damages, for the alleged loss of the life of a child from meningitis following the enucleation of an eyeball, has been decided in favor of the defendant.

Personal.—Dr. Charles E. Simon has returned from Nova Scotia.——Dr. Charles W. McElfresh has been elected associate professor of clinical medicine in the University of Maryland, vice Dr. Morris C. Robins, resigned.——Among the visitors to Baltimore last week were the members of the Moseley Commission (referred to in these columns last week), sent from England to study American universities.

MASSACHUSETTS.

Milk for **Sick Babies.**—A total of $4,530 was contributed in Boston this summer for the fund which supplies modified milk to the sick babies of the poor.

Hospital for **Melrose.**—A new private hospital in which any physician may care for his patients, is to be established in Melrose by two graduate nurses of the Melrose Hospital Training School.

Personal.—Dr. Walter S. Carr, who for 19 years has practiced in North Adams, has gone to Colorado on account of ill health. ——Dr. Arthur K. Drake, assistant superintendent of the state Hospital, Tewkesbury, has been elected superintendent of the Lowell General Hospital.

Registration at Harvard Medical.—The registration of Harvard Medical School shows a total of 374 students, a decrease, accounted for by the graduation of a class admitted under the low standard. Harvard now requires an A.B., or its equivalent, for admission to the medical school.

Ether Anniversary.—The fifty-seventh anniversary of the first administration of ether for a serious surgical operation was celebrated by the trustees of the Massachusetts General Hospital by an open-air lunch and an inspection of the new out-patient department. Several thousand people were present.

Limit Authority of Staff.—The managing board of Milford Hospital has notified each member of the staff officially that "no operation of a dangerous character shall be performed without the consent of at least two members of the staff other than those on duty at the time of the performance of such operation."

No Diphtheria Epidemic.—There has been considerable newspaper excitement in Boston over the supposed existence of an epidemic of diphtheria among the school children. The City Board of Health has had cultures made by school inspectors in the districts mentioned and finds remarkable freedom from the presence of the germs in healthy throats. Several towns in the state, however, not far from Boston, are having many cases of diphtheria.

Bequests.—Dickenson Hospital, Northampton, received $1,000 by the will of Elizabeth D. Clapp of that city.——By the will of Dr. George Haven, Boston, Harvard Medical School receives $25,000, and a share in the residue, and the Boston Lying-in Hospital, with which Dr. Haven was long connected, receives $20,000, and an equal share in the residue.——In the will of Miss Mary P. Ropes of Salem, filed for probate, October 23, Salem Public Hospital is given $2,500.

MISSOURI.

Personal.—Dr. John G. Parrish, Sr., is critically ill at his home in St. Louis. Dr. Theodore Ilg, St. Louis, fainted in the street, October 12, and fractured his skull.

Charged with Illegal Practice.—J. A. Parker, J. C. Hoyt and F. A. Starback, Kansas City, were arrested October 12 on complaint made by the State Board of Health, charging them with practicing medicine without license. They gave bonds of $500 each, and trial is set for November 27.

New Surgical Society.—On September 21 the St. Joseph Surgical Society was formed with the following officers: Dr. Jacob Geiger, president; Dr. O. Beverly Campbell, vice-president; Dr. L. A. Todd, secretary; Dr. Thompson E. Potter, treasurer, and Drs. Charles H. Wallace and James W. Heddens, censors.

PENNSYLVANIA.

Quarantine of **Allegheny Threatened.**—The State Board of Health has notified the authorities of Allegheny that, unless they at once take active measures to stamp out smallpox, the board will probably quarantine that city.

Smallpox and Typhoid.—For the week ended October 24, 9 new cases of smallpox were reported in contrast to 54 for the previous week. Of typhoid fever 80 new cases occurred as compared with 103 for the previous week.

Work for **the Insane.**—The inmates of the insane department of the Philadelphia Hospital have little to occupy their time, except to help care for their apartments and to prepare and serve their food, so that they spend much of their time in idleness. Director Martin proposes to introduce horticulture, and to that end asks for the contribution of plants.

Experimental Inspection of Schools.—The committee on hygiene of the board of education has authorized the director of the department of health to assign a medical inspector to one of the public schools who shall inspect the pupils daily. This is to serve as an experiment as to the value of such work, and will go far in determining whether a system of inspection for all the schools will later be inaugurated.

Prosecutions for Adulterations.—Dairy and Food Commissioner Warren has ordered prosecutions against 365 liquor dealers in the state for adulteration. Of samples taken 85 per cent. are said to have contained salicylic acid. He has also ordered ten prosecutions in Philadelphia against violators of the lard and oleomargarin laws. Several manufacturers of compound lard have subscribed a large amount to defend the packers and dealers.

New Hospital for Consumptives.—The board of trustees of the Rush Hospital for the Treatment of Consumptives has approved plans for a new hospital building as an annex to the present hospital. The new building will accommodate 40 patients, doubling the capacity of the institution. One-fourth of the amount necessary for the addition, $20,000, has been appropriated by the state, and it is necessary for the friends of the institution to raise the balance.

WISCONSIN.

The New Year.—Milwaukee Medical College opened October 1 with a lecture by Dr. William J. Cronyn on "Medical Jurisprudence."

Superior's Deaths for the Year.—The report of the secretary of the local board of health for the year ended October 1 shows that 46 deaths were due to pneumonia, 40 to scarlet fever, and 30 to consumption during the year. The total of deaths for the year was 453.

Smallpox Closes School.—The German school at Weyauwega has been closed because of smallpox among the pupils. As no physician has been employed, it spread considerably before it came to the attention of the local authorities. A strict quarantine has been instituted and no further spread of the disease is anticipated.

Personal.—Dr. William C. Bennett, for seven years registrar of vital statistics of Milwaukee, has resigned, and Dr. F. E. Darling has been chosen to succeed him.——Dr. Albert F. Heising, Menominie, has returned from Europe.——Dr. F. C. Kovats, senior interne at the Emergency Hospital, Milwaukee, has resigned, and Dr. George K. Koeppel has been promoted.

GENERAL.

Assistant Surgeons U. S. Navy Appointed.—Five new assistant surgeons have been appointed in the Navy. There are still eleven vacancies in the medical corps.

Personal.—Dr. T. Storie Dixson, a member of the medical board of New South Wales, Australia, was in Chicago last week, and will visit Europe before his return to Sydney.

Assistant Surgeons U. S. Army Appointed.—At the recent examination of candidates for commissions as assistant surgeons in the Army, held in Washington, D. C., only 5 out of over 20 candidates who reported for the examination qualified. There are now eighteen vacancies remaining in the medical department of the Army. Another examination will be held in Washington next May.

Yellow Fever Refugees.—An interesting feature of the yellow fever outbreak in Monterey, Mexico, is the migration of a hundred or more people to groves near that city, where they live in tents. They thus are away from the crowded centers of infection. They prefer not to go further because of business or family ties. Many others have gone to adjoining towns. Only a few cases of yellow fever have occurred. There are other diseases reported there, including malaria, which have been confused with yellow fever.

The Enno Sander Prize.—All persons eligible to active or associate membership in the Association of Military Surgeons of the United States may compete for the prizes (first prize, a gold medal, value $100; second prize, a life membership in the association, value $50) offered by that association for the best essays on "The Relation of the Medical Department to the Health of Armies." In fixing the precedence of the essays submitted, the board will take into consideration—primarily—

originality, comprehensiveness and the practicability and utility of the opinions advanced, and—secondarily—literary character. Essays will consist of not less than ten thousand, nor more than twelve thousand words, exclusive of tables. Three typewritten copies of the essay must be sent marked with a nom de plume, and with the author's name in a separate envelope, as is usual in prize competitions. All essays must be received by Sept. 10, 1904, by Secretary James Evelyn Pilcher, Carlisle, Pa.

FOREIGN.

For spitting in a street car a man in London was fined $30. This is said to be the first prosecution there. The offense was accompanied with the use of foul language.

Sentence for Fatal Quack Practices.—The German charlatan, Runge, has been condemned to three months' imprisonment at Lauenburg on account of the death of a young woman whom he treated by extensive venesection and application of 22 leeches. She had a gastric ulcer and succumbed within a few days to debility from the loss of so much blood. Another charlatan, Scheibler, has been fined $75 at Berlin for fraudulent practices and the use of the title, professor.

Compulsory Accident Insurance of German Students.—The German universities are introducing the plan of compelling the medical students to insure themselves against accidents. At Greifswald it is obligatory for all the students in the departments of medicine and physics, but at Heidelberg it is obligatory only for those in the institutes of anatomy, pathology, hygiene, etc., in which there is possible danger of accidents, and also for the students working on the cadaver. The students must bear the expense of the insurance themselves, without aid from the university or state.

Fined for Insulting the Medical Profession.—A teacher and a capitalist of Elberfeld, Germany, have been fined $18 each for "insulting the medical profession." The first mentioned is president of the local association of "nature healers," and with the coöperation of the other advertised in the local papers a free course of lectures for the benefit of physicians on the diagnosis of eye affections. The physicians of the place regarded the advertisement as a deliberate insult and sued for damages. The court took the same view and fined the defendants as stated.

The Psychologic Aspect of the Humbert Frauds.—Dr. Fay comments in the *France Médicale* on the Humbert case as an example of what is possible to depravity plus hysteria. He says that as an illiterate country girl, Thérèse Humbert invented stories of concealed treasures while still a child, and as a young woman, a pronounced hysteric, she became convinced of the truth of what she was continually asserting in regard to the imaginary Crawford millions. This obsession persisted to the end, and still in prison where she is serving a five-year sentence. He adds: "Hysteria produces its saints and its sinners. Psychologists have always been interested in the record of the holy nun known as Sainte Thérèse who was affected with the gravest organic form of hysteria, hysteric paralysis with contractions. History now gives us in the life of the Humbert woman an amazing example of criminal human nature complicated by hysteria."

The Nuremberg Historical Medical Museum.—The last number of the *Deutsche Med. Wochenschrift* brings the report of the progress realized in this new institution which aims to preserve everything relating to the history of medicine in Germany. The report is from the hand of Dr. R. Landau, whose untimely death we recently chronicled. He describes with enthusiasm the many donations received during the year since its inception, and points out the great value to such a museum of original prescriptions from the hands of the dead masters, and urges their collection, also diplomas and other documents. One of the gems of the museum is a diploma given to an obstetrician in 1731, which is ornamented with designs introducing the surgical instruments used at that date. Another interesting historical feature is a collection of the first local pamphlets from the watering places. The success of this historical museum is now assured, if only as a memorial to Landau.

European Decorations for the Profession.—Two Spanish physicians were decorated by the King of Spain on the occasion of the International Medical Congress at Madrid. The order of the Cross of Alphonso XII was conferred on Dr. Larra y Cerezo and the Grand Cross on Dr. Cortezo, who is co-editor of the *Siglo Medico* and president of the International Medical Press Association. The *Siglo Medico* at once opened a subscription list to raise funds to present the insignia of the orders to the recipients, and now announces that sufficient contributions have been received for the purpose—about $170 and $213. These decorations are not always accompanied by the gift of the insignia, and in certain orders when they are presented it is with the understanding that they are to be returned to the sovereign presenting them on the death of the one thus honored. The Order of the Golden Fleece is one of this thrifty kind, and the badge thus acquires great historical value as it is passed from one holder to another. The Standard dictionary contains cuts of the most noted insignia, and our readers will remember that the order of the Dannebrog, founded in 1219, was conferred by the King of Denmark on Dr. Christian Fenger of Chicago, not long before his death. Several other members of the American Medical Association have also been thus distinguished by foreign potentates.

International Sanitary Conference.—Twenty-five powers are represented at this conference now in session at Paris. There are 69 delegates, 39 of whom are members of the medical profession. The invitation to the conference was issued by Italy, and the French ambassador to Italy, Mr. Barrère, presides over the meetings. France is represented besides by Brouardel, Proust, general inspector of the sanitary service in France, Roux of the Pasteur Institute, Calmette of Lille and three other physicians from the French colonies in Africa, with G. Louis, director of consulates. Great Britain is represented by de Bunsen of the British embassy, and two physicians, T. Thomson and F. G. Clemow, with Colonel Richardson of the Indian Medical Service and Mr. Alban. There are 4 official delegates from Germany, including Gaffky of Giessen and Nocht of Hamburg. The delegates from the United States include Surgeon Anderson, medical inspector of the European station, and Col. Gorgas, assistant surgeon-general, U. S. A., late of Havana, both members of the American Medical Association, with Dr. Giddings. The part played by the rats in the dissemination of the plague has been brought to light since the last international conference of the kind, and uniform measures to prevent infection from this source are under discussion. Another theme is the quarantine for the ships passing through the Suez canal. The wishes of Great Britain conflict with those of the other powers on this point.

A Warning to Wealthy Parents.—A very important lesson is drawn by the *Deutsche Med. Wochenschrift* from a recent sensational affair in Germany, urging the necessity for medical oversight of the children of wealthy parents. The two sons of a prominent Berlin banker were entrusted to a private tutor, who lived on a country estate or in the little town of Bayreuth with them while the parents were traveling or at home in Berlin. No one except the tutor was responsible for the lads, and their mental training seemed to be the only care of the parents. The tutor proved to be a typical case of extreme sadism, and during the months that the boys were under his charge maltreated them to such an extent that one has since died. If some local physician in the country town had been written to and requested to look after the children at brief intervals this terrible catastrophe might have been averted. Our exchange adds a warning to all parents, and especially to those of the upper ten thousand, to regard the health of their children as their most precious treasure, and not to leave the care for their physical welfare entirely in the hands of outside persons—no matter how "ideally" they may seem fitted for the task. In the case mentioned a number of extraordinary circumstances combined to keep the boys in their slavery and prevent its reaching the ears of the parents, who apparently regarded the boys' health and happiness as "neglectable quantities." The tutor has been sent to the penitentiary for eight years.

Decisions of the Prussian Medical Court of Honor.—In a recent decision the court stated that misdemeanors, etc., on the part of physicians, outside of their professional work, come within the jurisdiction of the court of honor, as such proceedings conflict with the honor of the profession. In another case a local court of honor had fined a physician for selling his practice to his successor. Appealing to the central court of honor the physician showed that the price received, $750, was in payment for the vehicles, etc., valued at $800, and that the practice had not been included in the bargain, and the sentence of the lower court was reversed. In another case a physician was fined for associating himself in business with a charlatan. He offered testimony to prove that the charlatan had contracted with him to refrain altogether from any connection with medical affairs, and, hence, he considered that the man had ceased to be a charlatan. The decision of the court was to the effect that any business association with a charlatan is *per se* an offense against professional ethics, but as the physician had severed at once his connection with the charlatan as

soon as he learned of the disapproval of the court, this was accepted as a mitigating circumstance and the lightest penalty imposed. Another physician had examined a deaf and dumb workingman, but in making out the certificate later did not think of this defect and testified that he was sound. The local court of honor censured the physician but did not fine him, stating that a single act of negligence is not sufficient to justify the assumption that a physician is habitually negligent. The higher court of honor took up the case and proclaimed that neglect of proper carefulness, even in a single instance, is sufficient to show that the physician does not exercise his profession in a conscientious manner. The failure to specify the deafmutism of the subject when taking the notes for an official certificate, is sufficient grounds for the assumption of negligence, and a penalty was therefore imposed.

PARIS LETTER.

Radical Treatment of Eclampsia.

Dr. Maury, former interne of the Paris hospitals, has written a thesis recently on the treatment of eclampsia, in which he strongly advocates Bounaire's treatment, consisting in removing the child as soon as possible. If labor comes on during eclampsia, it should be hastened, whatever may be the date of the pregnancy. When such is not the case, it should still be carried out when the attack of eclampsia is severe. In some cases the condition of the mother is such that the only means of saving the child is to perform the "accouchement forcé." After the beginning of the eighth month it is well to do this if eclampsia does not respond quickly to the treatment.

Microbes Necessary to Nutrition.

A German physician, Schottelius, has been carrying out some experiments on some chickens which are highly interesting as tending to show that some bacteria are necessary to life. Five new-born chickens were given sterilized food, and though they ate much more than other chickens, none was able to live more than eleven to twenty-nine days. The digestion seemed to take place normally, but there was no increase in size. Schottelius made another experiment, which consisted in giving some of these chickens a culture of *Bacillus coli gallinarum*. The chickens began to grow larger immediately and no anomaly was noticed.

Destruction of Rats by Carbonic Acid.

In the French Review of Hygiene a method of destroying rats on board ship has been recently described by Dr. Jacques of Marseilles. Carbonic acid was used, and for a space of 120 cubic meters 40 cubic meters were employed. The carbonic acid was brought to the hold of the vessel by means of a long pipe, which divided off into four smaller pipes passing into the merchandise. The hold was kept closed three hours, and then thoroughly ventilated by means of the same apparatus. Fifty-two rats which had been placed in the hold were found dead. One advantage of this operation is its absence of odor, and the fact that it can hurt no merchandise.

Radiography of Gallstones.

At a meeting of the Academy of Sciences held last month Drs. Mauclaire and Infroit described how they had obtained a radiograph of gallstones. This is, it seems, the first time that such a result has been obtained. A small tube, which was "osmo regulateur," and charged by a static machine with eight places, was placed at 75 centimeters from the radioplate, on which the patient was placed directly. A bandage of linen, 30 centimeters large, served to compress the abdomen. The tube was but slightly penetrating and the pose only lasted 10 minutes.

Novel Treatment of Gastro-enteritis.

At a meeting held by the Academy of Medicine October 13, Dr. H. de Rothschild, one of the members of the well-known family of that name, described the results of his treatment of infantile gastro-enteritis. It seems that six thousand infants under a year of age die on an average every year in Paris from this disease. Dr. de Rothschild has milk centrifuged so as to remove the butter, then acidified by using pure cultures of lactic acid; 30 to 60 cubic centimeters are then given to a child. After this treatment the temperature dropped in a short space of time, and the condition of the patients improved, the most noticeable fact being that they increased in weight. Out of 14 cases treated in this manner, a complete cure was obtained in 13 cases, and in one case only was there a relapse, which ultimately was followed by a cure.

The Relations of Cancer and Ulceration of the Stomach.

Duplay of Lyons, a pupil of Professor Tripier of Lyons, published in 1898 a work in which he declared that it was not proven that cancer ever succeeded ulcer of the stomach, and went so far as to say that such an event never took place. Dr. Andistere has just published a thesis in which he proves that such a transformation may take place, and is not rare. This is most frequently seen in ulcers situated in the prepyloric region and begins by the borders of the ulcer. A diagnosis can be made out by the persistence of the morbid symptoms after prolonged treatment, especially the pain. The prognosis is much more grave than that of ordinary cancer, as complications of both diseases may supervene.

Marriages.

JOHN D. CANTWELL, M.D., Davenport, Iowa, at Ackley, Iowa, October 8.

EDWIN W. POINIER, M.D., to Miss Lela M. Peet, both of Chicago, October 27.

LEWELLYS F. BARKER, M.D., Chicago, to Miss Lilian Halsey, at Baltimore, October 29.

FREDERICK H. BAETJER, M.D., to Miss Mary Y. Carey, both of Baltimore, October 14.

RICHARD C. NORRIS, M.D., Philadelphia, to Miss Grace Thompson-Vogt, October 14.

W. W. COLEMAN, M.D., Lawndale, Ill., to Miss Bida Dunham, near Lincoln, Ill., October 14.

HARRY G. WATSON, M.D., to Miss Adelaide Marie Erichs, both of New York City, October 14.

JOSEPH MARSHALL FLINT, M.D., to Miss Anne Apperson, at Pleasanton, Cal., in September.

EDWARD HOMER GEE, M.D., to Miss Lavinia Logan Gant, both of Zanesville, Ohio, October 14.

LOUIS H. CISLER, M.D., Marietta, Ohio, to Miss Carol S. Nye, at Brookline, Mass., October 12.

WALLACE W. ROBINSON, M.D, Portland, Me., to Miss Addie E. Bowden of Chicago, October 28.

GLASGOW ARMSTRONG, M.D., to Miss Jessie May Bowling, both of Staunton, Va., October 14.

JULIAN F. CHISHOLM, M.D., Savannah, Ga., to Miss Nannie E. Levering, at Baltimore, October 15.

J. A. JOHNSON, M.D., Bottineau, N. Dak., to Miss Emma Babler of Humboid, Wis., October 7.

HOMER SAMUEL WARREN, M.D., to Miss Charlotte A. Van Housen, both of Chicago, October 15.

HERMAN CARL MERKER, M.D., Chicago, to Miss Nina A. Williams of Rochester, N. Y., October 14.

EDWARD SANBORN SMITH, M.D., Macon, Mo., to Miss Emily Frey, at Washington, D. C., October 14.

VICTOR L. ZIMMERMAN, M.D., Brooklyn, N. Y., to Miss Margaret King of New York City, October 14.

CHARLES P. ALING, M.D., Marine Mills, Minn., to Miss Genevieve McCool, at Hillsboro, Ill., October 23.

HARRY CLEMM HYDE, M.D., Baltimore, to Miss Mary Catherine Duncan, at Norfolk, Va., October 14.

TRAVIS SCOTT, M.D., Pleasant Plains, Ill., to Miss Witty, at her home near Newmanville, Ill., October 14.

LEONIDAS A. KOONTZ, M.D., to Miss Rachel J. Corley, both of Sutton, W. Va., at Baltimore, October 11.

CHARLES H. SPENCER WILLIAMSON, M.D., to Mrs. Josephine Gillette Stillwell, both of Chicago, October 15.

JOSEPH FRANCIS WARD, M.D., Brooklyn, N. Y., to Miss Elizabeth R. Hawkins, at Baltimore, October 15.

Deaths.

Jean Fresne Chauveau, M.D. Geneva (N. Y.) Medical College, 1853, a member of the American Medical Association, New York State Medical Association, New York Academy of Medicin, New York County Medical Society, and New York Neurological Society, attending physician at the French Hospital for twenty years, and for fifty years a practitioner of New York City, died at his home, October 17, aged 72.

Maurice Fieschor Pilgrim, M.D. Howard University, Washington, D. C., 1884, once vice-president, and at the time of his death chairman of the executive council of the American

Electro-Therapeutic Association, died at his home in New York City, October 18, from pneumonia, after a brief illness, aged 45.

Sidney S. Willis, M.D. College of Physicians and Surgeons, New York, 1890, a member of the American Medical Association, and one of the staff of St. Elizabeth's Hospital, Appleton, Wis., died at that institution, October 14, from typhoid fever, after an illness of ten days, aged 35.

John L. Waldie, M.D. Long Island College Hospital, Brooklyn, N. Y., 1896, died at his home in Brooklyn, N. Y., October 18, from kidney disease, after an illness of two weeks, aged 31. He was a member of the staff of St. Mary's Hospital and of the Kings County Medical Society.

Albert Nott, M.D. University of Vermont, Burlington, 1869, some-time dean of the Boston College of Physicians and Surgeons, and of the Tufts College Medical School, died suddenly at his home in West Newton, Mass., October 10, from rheumatism of the heart, aged 53.

J. W. Carleton, M.D. College of Physicians and Surgeons, Keokuk, Iowa, 1869, of Sisseton, S. Dak., a member of the American Medical Association, was found dead in Dry Wood Lake, October 14. He is supposed to have died from heart disease.

Robert Aberdein, M.D. Bellevue Hospital Medical College, New York City, 1867, of Syracuse, N. Y., who had retired from practice three years ago on account of ill health, died at the Hospital of the Good Shepherd, Syracuse, October 18, aged 57.

W. D. Hoyt, M.D. Jefferson Medical College, Philadelphia, 1854, a member of the American Medical Association, and one of the oldest practitioners of Rome, Ga., died at his country home near Farrill, Ala., October 16, from septicemia, aged 75.

James I. McConnell, M.D. Atlanta (Ga.) Medical College, 1884, a member of the International Association of Railway Surgeons, died at his home in Napoleonville, La., October 7, after an illness of one month.

John George Neal, M.D. Kentucky School of Medicine, Louisville, 1890, died in Santa Rosa, Cal., from septicemia, October 11, three days after an operation for abscess in the hip-joint, aged 38.

Hamill M. Alexander, M.D. University of Pennsylvania, Philadelphia, 1876, a member of the American Medical Association, died at his country home at Conewago, Pa., October 13, aged 52.

Albert F. Sawyer, M.D. Harvard University Medical School, Boston, 1852, one of the physicians in attendance on President Garfield, died at his home in San Diego, Cal., September 29, aged 84.

DeWitt Clinton Clark, M.D. New York University, 1878, was stricken with paralysis, September 24, near Orting, Wash., and died at the home of his daughter in Puyallup, September 30, aged 68.

David A. T. Bjorkman, M.D. College of Physicians and Surgeons, Chicago, 1898, of Evanston, Ill., died from tuberculosis at the Glockner Sanitarium, Colorado Springs, Colo., October 14.

Marsh H. Smith, M.D. Bennett College of Eclectic Medicine and Surgery, Chicago, 1875, of Manchester, Ill., died suddenly from heart disease while on a train at Dwight, Ill., October 16.

George C. Baker, M.D. University of Tennessee, Nashville, 1894, of Greenville, Ill., died suddenly from apoplexy, October 9, while making a professional call at Woburn, Ill., aged 42.

Ludwig S. Filbert, M.D. Pennsylvania Medical College, Philadelphia, 1847, died at his home in Philadelphia, October 19, from acute gastritis, after an illness of twelve days, aged 78.

John Ellis Wright, M.D. Marion-Sims College of Medicine, St. Louis, 1899, of Oak Grove, Ark., died from consumption, October 12, at the home of his father in Grandview, Ark.

Hugh P. Smith, M.D. Memphis (Tenn.) Medical College, 1858, died at his home in Goldthwaite, Texas, October 7, aged 73. He became blind and retired from practice in 1900.

Ossian W. Goss, M.D. Harvard University Medical School, Boston, 1882, a member of the American Medical Association, died at his home in Lakeport, N. H., October 8, aged 47.

George P. Kaemmerling, M.D. College of Physicians and Surgeons, Chicago, 1902, was found dead in bed in his office in Port Washington, Wis., from heart disease, October 3.

Richard Carnegie, M.D. Trinity College, Dublin, for ten years medical officer of an Allan liner, died recently in his berth on board the *Bavarian*, at the port of Montreal, aged 38.

Mark J. Morton, M.D. University of Tennessee, Nashville, 1885, died at his home in Fallcreek, Tenn., October 13, aged 40.

Daniel M. Pratt, M.D. Castleton (Vt.) Medical College, 1851, died at his home in Washington, D. C., October 12, from paralysis, after an illness of two weeks, aged 74.

Willam H. Graves, M.D. Southern Medical College, Atlanta, Ga., 1898, died at his home in Webster, Fla., October 2, from typhoid fever, after an illness of two weeks.

Frank C. Le Blond, M.D. Medical College of Ohio, Cincinnati, 1874, was found dead in his office at Celina, Ohio, from neuralgia of the heart, October 7, aged 53.

James Y. Bradfield, M.D. Medical College of Georgia, Augusta, 1858, of Daingerfield, Texas, died at Sulphur Springs, Texas, October 6, suddenly, from heart disease.

A. C. Bourbeau, M.D. Laval University, Quebec, 1902, honor man of his class, died at his home in Ste Agathe, Que., September 30, from typhoid fever, aged 25.

John Dudley Keegan, M.D. Cleveland Medical College, 1869, died at his home in Columbus, Ohio, October 9, from throat disease, after a short illness. aged 78.

William L. Wright, M.D. Memphis (Tenn.) Hospital Medical College, 1894, died at his home in Powder Springs, Ga., from an overdose of morphin, October 14.

Joseph N. McCrary, M.D. Louisville Medical College, 1893, of Whitesburg, Ky., died, October 16, from consumption, after a lingering illness, aged 33.

Jesse C. Rowley, M.D. Rush Medical College, Chicago, 1891, died suddenly from heart disease at his home in Prairie du Chien, Wis., October 21.

B. C. Seaton, M.D. Jefferson Medical College, Philadelphia, 1873, died at his home in Bolivar, Pa., October 9, from paralysis, aged 55.

William Willigman, M.D., of Mineral City, Ohio, died at his home, October 10, after a short illness, aged 58.

Deaths Abroad.

A. Fochier, M.D., professor of obstetrics and an eminent surgeon of Lyons, France, died in October, aged 66, succumbing in the halls of the university to a fulminating attack of angina pectoris. He was president of the local surgical society and had long been a member of the city council. Of all his numerous contributions to science the best known, perhaps, is his method of inducing aseptic abscesses with turpentine as a revulsive measure, the so-called "fixation abscesses."

Sophie Frances Hickman, M.D., a member of the staff of the Royal Free Hospital, Gray's Inn Road, London, disappeared August 15, and, despite all efforts, no trace of her was found until October 18, when a headless body, identified as hers by trinkets, was found in a wood at Richmond. She was about 30 years of age.

Miscellany.

Success of Sodium Bicarbonate for Dressing Wounds.—Levassort applies the bicarbonate directly to the wound, sifting it freely over and packing the cavity with asceptic gauze, sometimes mixing it with the gauze. He leaves this dressing for fifteen to twenty days, merely drawing up a small piece of the gauze and cutting it off every two or three days. When the last of the gauze is removed the depths of the wound are found filled with red, almost erectile, granulations, and healing is soon complete. He does not drain except in abdominal surgery. The bicarbonate does not injure the tissues, but aids in osmosis and stimulates and provides a nourishing fluid for the young cells that develop. Their proliferation is so intense that they crowd out all microbian elements and grow into and transform fibrous cicatricial or degenerated tissues, so that it is not necessary to remove the latter to the extent generally believed. In his communication to the *Jour. de Méd de Paris* he illustrates a typical case out of his five years' experience with this method, and describes a number of others.

A Profession, Not a Trade.—The professional man, like others, must live, and must earn a wage. But he has only one quality of service to sell—his best. No matter whether there be any return for that service or not, the service is his best. The true ideal of a profession is that want will be accepted rather than a fee for the performance of some act that is dishonorable, or *unprofessional*. The army takes high place in the list

of professions. Ruskin, the great sage, reaches the true reason when he says of the soldier: "He holds his life at the service of the state. Our estimate of him is on this ultimate fact—of which we are well assured—that, put him in a fortress breach, with all the pleasure of the world behind him, and only death and his duty in front of him, he will keep his face to the front." Here, then, we have the real essence that must ever distinguish the professions from the trades—service first, wage second.—*Canada Lancet.*

Hot Saline Solution in Treatment of Scrofulous Glands.—Unterberger has adopted the *douche filiforme salée* of the Biarritz physicians in his treatment of scrofulous glands in the neck, and states that it accomplishes surprisingly favorable results. He applies a stream of a concentrated saline solution, as hot as can be borne, to the gland for one to three minutes and follows this with hot compresses wet with saline solution, a tablespoonful of salt to a glass of water. At Biarritz the natural thermal saline waters are used at a temperature of 104 F. with a pressure representing 7 meters. Afterward the patient is given a warm saline bath and dried with hot towels, and is ordered to lie down for nearly an hour. The osmotic tension throughout the body is increased by the salt and the general metabolism accelerated, while the jet on the glands stimulates retrogressive metamorphosis. He states, in his communication to the *St. Petersb. Med. Woch.*, xxvii, 32, that his success with scrofulous glands has led him to try this method of treatment also for subcutaneous infiltrations and bone and joint affections. The results have been highly satisfactory.

Santonin in Tabes.—In 1901 Negro announced that in 8 out of 11 cases of tabes the fulminating pains were arrested by administration of santonin, while two others were much improved and only one proved refractory. Combemale reports in *Echo Méd.*, vi, 26, his experience with it in 16 cases of various nervous affections. In 7 cases not the slightest effect was appreciable, whether the patients took larger or smaller doses, in shorter or longer courses. These were all cases of neurasthenia or ordinary neuralgia. On the other hand, in the 9 cases of tabes the fulminating pains were unmistakably arrested in 5 by the medication. Negro's dose was 15 cg. of santonin in three doses of 5 cg. each at an hour's interval, given during the attack. Combemale gave smaller amounts, longer continued, but has become convinced that Negro's method is preferable. He found that gastric crises followed the subsidence of the fulminating pains in one case in which the santonin had been given continuously for a maximum period. He remarks that xanthopsia is the first sign of incipient intoxication and requires suspension of the drug, but at this early stage of intoxication there is no danger of serious consequences from it. He is inclined to try a preventive course of 15 cg. in future when fulminating pains are imminent.

After Reorganization, What?—If the reorganization of the medical profession gave no further results than increased harmony and unity in the general profession of medicine it would be well worth all it costs, but as a matter of fact this expected result is one of the very least of probable good benefits. One of the first things to be looked after by the officers, particularly the president and the secretary, of the various new county societies, is the preparation of interesting scientific programs. One of the greatest objects that the committee on reorganization had in mind was the promulgation of scientific spirit in the various county societies. It is expected that in the local society the very best work will be done. The younger men of the profession should do their full share of original research and in correctly recording their observations of cases. The older men in the profession are fitted to draw conclusions from these observations, together with their own from earlier years. The joint results from such work will accomplish a great deal in preventing much of the radicalism that now does our profession so much harm. The university extension system could be very easily applied to the work of a society. Men who are recognized leaders in their chosen fields would gladly give of their time to this work. Considerable time might well be spent on the subject, "Business Methods." Surely no profession needs to give greater consideration to this subject than does the medical profession.—*Iowa Medical Journal.*

The Non-Members of Medical Societies.—Why is it that a large majority of all practitioners are not members of a medical society? In part this is due to apathy of the officers and failure to present an attractive program, but more often the fault is in the men. Perhaps given over wholly to commercialism, a doctor feels it a waste of time to join a society, and so it is if he is in the profession only for the money he can get out of patients, without regard to the sacred obligation to put himself in the best possible position to do the best that is known for them. More frequently, I fear, the "dollar-doctor" is a regular frequenter of the society, knowing full well how suicidal in the long rung is isolation from the general body of the profession. The man who knows it all and gets nothing from the society reminds one of that little dried-up miniature of humanity, the prematurely senile infant, whose tabetic marasmus has added old age to infancy. Why should he go to the society to hear Dr. Jones on the gastric relations of neurasthenia when he can get it all so much better in the works of Einhorn and Ewald? He is weary of seeing appendices, and there are no new pelvic viscera for demonstration. It is a waste of time, he says, and he feels better at home, and perhaps that is the best place for a man who has reached this stage of intellectual stagnation.—*Dr. Osler before the New Haven Medical Association.*

Book Notices.

THE PRINCIPLES AND PRACTICE OF HYDROTHERAPY. A Guide to the Application of Water in Disease. For Students and Practitioners of Medicine. By Simon Baruch, M.D., Professor of Hydrotherapeutics in the New York Post-Graduate Medical School and Hospital. Second Edition, Revised and Enlarged. With Numerous Illustrations. Cloth. Pp. 496. Price, $4.00 net. New York: Wm. Wood & Co. 1903.

The appearance of this second edition so soon after the previous one indicates its usefulness and the timeliness of the work. It is the only satisfactory treatise on the subject in our language. The author has cut down the material which he deemed necessary in his first edition to support his beliefs in the general use of hydrotherapeutics and has added a chapter on insanity based on the recorded observations of practical alienists. We believe the present edition will be received with the same favor as was the first, and perhaps even with more, since the first volume has educated the medical public to some extent in the use of water. The book should be read by every general practitioner. While hydrotherapy is overdone in some respects, as in the Brand treatment of typhoid fever in some cases, there are many other ways—beside the full bath—in which the antithermic and tonic effects of water can be obtained; not a few valuable uses of water are too little used. This work of Dr. Baruch will continue to be the standard text-book on its subject in this country.

NERVOUS AND MENTAL DISEASES. By Archibald Church, M.D., Professor of Nervous and Mental Diseases and Head of Neurological Department, Northwestern University Medical School; and Frederick Peterson, M.D., President New York State Commission in Lunacy. Fourth Edition, Thoroughly Revised and Enlarged. With 338 Illustrations. Cloth. Pp. 922. Price, $5.00 net. Philadelphia, New York, London: W. B. Saunders & Co. 1903.

This edition of this well-known work contains the later additions to our knowledge on the subject. Church has included in the text the data in regard to nerve degeneration furnished by Ballance and others, and has also included herpes zoster as a nervous disease. The subject of intermittent claudication is also considered as well as the myoclonic type of epilepsy and special attention is given to certain points in diagnosis, etc. The department of the book on insanity by Peterson has been enlarged by a review of the problems of psychiatry as shown in the recent work of German investigators; in other words, a review of the more recent work in this line by Ziehen, Wernicke, and Kraepelin, which has been contributed by Dr. Adolph Meyer, director of the New York Pathologic Institute. This forms a valuable addition independent of the rest of the psychiatric part of the book. New

cuts have been added to the work, and it will undoubtedly maintain its place as one of the leading, if not the leading, text-book on its subject in this country.

MODERN BULLET WOUNDS AND MODERN TREATMENT, with Special Regard to Long Bones and Joints, Field Appliances and First Aid. Part of the Alexander Essay for 1903. By Major F. Smith, D.S.O., Royal Army Medical Corps. Cloth. Pp. 99. Price, $1.20 net. London: J. & A. Churchill. Philadelphia: P. Blakiston's Son & Co. 1903.

This is a part of the Alexander prize essay for 1903. It is but a small book, but will be of practical value to those who are interested in this branch of modern surgery.

SERUM THERAPY, BACTERIAL THERAPEUTICS AND VACCINES. By R. T. Hewlett, M.D., M.R.C.P., D.P.H. Lond., Professor of General Pathology and Bacteriology, King's College, London. Cloth. Pp. 262. Price, $1.75. Philadelphia: P. Blakiston's Son & Co. 1903.

The author has attempted to give a concise account of the preparation of antitoxins and the treatment of diseases therewith and antisera and various other substances, vaccines, etc., obtained from bacterial cultures and the like. With this he gives brief directions as to the making and testing of various preparations, though, as he says, the data are not complete, and only practical experience can make one thoroughly skillful and competent. He has briefly noticed other somewhat allied substances, such as typhoid extract of Jez, cancroin, etc. The book will be a convenient one of reference to the physician who wishes to be posted on these substances.

DISEASES OF THE SKIN. An Outline of the Principles and Practice of Dermatology. By Malcolm Morris, Consulting Surgeon to the Skin Department, St. Mary's Hospital, London. With 2 Colored Plates and 58 Plain Figures. New Edition. Flexible Cloth. Pp. 642. Price, $2.50. Chicago: W. T. Keener & Co. 1903.

This third edition of Morris' handbook brought out for American readers is one of the more convenient as well as complete of the smaller handbooks on dermatology and deserves to be widely read. It is especially convenient in its compactness, and, while no work on this subject can be absolutely complete within its compass, it is as nearly so as can probably be demanded. Dr. Morris says that care has been taken not to alter the character of the volume in expanding it from an elementary manual to a treatise, and it will be all the more acceptable to many general practitioners for just this reason.

ANNUAL REPORTS OF THE SUPERVISING SURGEON-GENERAL OF THE MARINE-HOSPITAL SERVICE OF THE UNITED STATES. For the Years 1900 and 1901. Paper. Pp. 736 and 652 Respectively. Washington: Government Printing Office.

These are interesting documents. Beside the ordinary matter which such reports contain there are a number of instructive pathologic and clinical reports. A portion of real historical interest is the correspondence and history of the action in regard to bubonic plague at San Francisco in 1901, an instructive episode in public sanitation. It is to be hoped that no other sanitary officer will be subject to the persecution and abuse that Dr. Kinyoun received in San Francisco. Taken altogether the reports of these two years are valuable contributions to sanitary literature.

State Boards of Registration.

COMING EXAMINATIONS.

State Board of Examiners of Alabama, Montgomery, Nov. 1-10.

Oklahoma Medical Examining Board, Enid, Nov. 10.

Committee of the Connecticut Medical Society, City Hall, New Haven, Nov. 10.

Board of Registration in Medicine of Massachusetts, State House, Boston, Nov. 10-11.

State Board of Health of West Virginia, Point Pleasant, Nov. 10, 11, 12.

Nebraska State Board of Health, Lincoln, Nov. 11.

Board of Registration of Medicine of Maine, Augusta, Nov. 11.

Board of Medical Examiners of the State of California, City Hall, San Francisco, Dec. 1.

New Mexico Board of Health, Santa Fe, Dec. 7.

Examining Board of Medical Society of Delaware, Dover, Dec. 8.

Board of the Homeopathic Medical Society of Delaware State and Peninsula, Wilmington, Dec. 8.

Ohio State Board of Medical Registration and Examination, Columbus, Dec. 8, 9 and 10.

Illinois July Report.—Dr. J. A. Egan, secretary of the Illinois State Board of Health, reports the written examination at Chicago, July 22, at which, out of 153 applicants, 149 passed and 4 failed. We have prepared from this a summary by colleges, as follows:

COLLEGE.	No. Passed.	No. Failed.	Max. Grade.	Min. Grade.	Average of Those Who Passed.	Average of Those Who Failed.
Northwestern Univ., Chicago...	26	0	91	81	87.07	.....
Rush Medical College, Chicago..	50	0	93	79	86.68	.....
College of P. and Surgs, Chicago	7	0	91	76	84.42	.....
Harvey Medical College, Chicago	14	0	89	78	83.57	.....
Jenner Medical College, Chicago.	11	2	87	65	81.45	67
Illinois Medical College, Chicago	5	0	83	76	81.20	.....
Amer. Med. Miss. Coll., Chicago.	2	0	83	81	82.00	.....
Hahnemann Med. Coll., Chicago.	2	1	85	67	83.50	67
Chicago Homeo. Medical College.	2	0	87	76	81.50	.....
University of Michigan.....	3	0	90	86	87.66	.....
University of Iowa.....	3	0	85	81	83.66	.....
Eclectic Med. Inst., Cincinnati..	2	0	84	78	81.00	.....
Hosital Med. College, Louisville.	2	0	89	82	85.00	.....
Kentucky School of Medicine...	2	0	84	84	84.00	.....
Bennett Medical College, Chicago	1	1	80	72	76.00	72
Amer. Coll. of M. and S., Chicago	1	0	75	75	75.00	.....
Coll. of Med. and Surg., Chicago	1	0	82	82	82.00	.....
Baltimore Medical College.....	1	0	87	87	87.00	.....
Woman's Med. College, Chicago.	1	0	76	76	76.00	.....
Milwaukee Medical College.....	1	0	82	82	82.00	.....
M. Sims-Beaumont Med. College.	1	0	87	87	87.00	.....
Jefferson Med. Coll., Philadelphia	1	0	84	84	84.00	.....
Kentucky University	1	0	76	76	76.00	.....
Amer. Medical College, St. Louis	1	0	83	83	83.00	.....
Johns Hopkins University.....	1	0	89	89	89.00	.....
Keokuk Medical College.....	1	0	80	80	80.00	.....
Cornell University	1	0	88	88	88.00	.....
Medical College of Ohio.....	1	0	81	81	81.00	.....
University of Palermo, Italy....	1	0	86	86	86.00	.....
University of Naples, Italy.....	1	0	84	84	84.00	.....
University of Genoa, Italy.....	1	0	84	84	84.00	.....
Cleveland Homeo. Med. College..	1	0	83	83	83.00	.....

The following are the grades in detail attained by the candidates of schools having 3 or more representatives:

Northwestern University: A grade of 91 was attained by 2; 90 by 6; 88 and 87 each by 3; 86 by 4; 85 and 84 each by 2; 89, 83, 82 and 81 each by 1.

Rush Medical College: 93 and 92 each by 1; 91 by 3; 90 and 89 each by 5; 88 by 4; 87 by 11; 86, 83 and 82 each by 3; 85 by 6; 84 and 81 each by 2; 79 by 1.

College of Physicians and Surgeons: 91, 90, 89, 87, 80, 78, 76 each by 1.

Harvey Medical College: 89, 88, 86, 85, 84 and 78 each by 1; 87, 83, 81 and 79 each by 2.

Jenner Medical College: 87, 84, 79, 78, 69 and 65 each by 1; 81 and 80 each by 2; 82 by 3.

Illinois Medical College: 83 by 3; 81 and 76 each by 1.

Hahnemann Medical College: 85, 82, 67.

University of Michigan: 90, 87, 86.

University of Iowa: 85, 85, 81.

Rhode Island Report.—Dr. G. T. Swarts, secretary of the Rhode Island State Board of Health, reports the examination held at Providence, R. I., Oct. 1 and 2, 1903, as follows: Number of subjects, 7; questions, 70; percentage required, 75; examined, 16; passed, 15; failed, 1. The examination was a written one.

PASSED.

Candidate.	Schl. of Pract.	College.	Year Grad.	Per Cent.
245	R.	Baltimore Medical College.....	1903	82.6
246	R.	Baltimore Medical College.....	1903	79.8
252	R.	College of Phys. and Surgs., Baltimore	1901	82.0
253	R.	College of Phys. and Surgs., Baltimore	1903	79.3
257	R.	College of Phys. and Surgs., New York	1902	81.9
247	R.	Georgetown University	1903	82.1
248	R.	Harvard University	1903	78.4
256	R.	Harvard University	1903	89.1
255	R.	Illinois Medical College.....	1902	75.0
258	R.	McGill University	1902	87.9
250	R.	University of Lisbon.....	1900	76.0
249	R.	University of Michigan.....	1901	84.8
259	H.	Women's Medical College and Hospital, New York Infirmary.....	1898	82.3
254	R.	Medico-Chirurgical Coll., Pennsylvania	1898	76.8
251	R.	University of Naples.....	1899	77.1
260	R.	University of Vermont.....	1862	*75.0

FAILED.

244	R.	University of Naples.....	1899	73.9

* Special oral examination October 15.

The questions asked were as follows:

ANATOMY AND PHYSIOLOGY.

1. Give a brief description of the temporal bone, and state with what bones it articulates. 2. Describe the tarso-metatarsal articulations. 3. Describe the sacrum and give comparative osteology of same. 4. Describe the nerve mechanism of mastication. 5. Give the physical and chemical characters of protoplasm. 6. Describe the (*a*) fixed, and (*b*) ameboid cells of connective tissues. 7. Describe the mode of secretion and discharge of bile and give the average quantity daily secreted by man. 8. Give the chemical composition of human milk. 9. Give the quantity of water in 1000 parts of (*a*) blood, (*b*) gastric juice, (*c*) teeth, (*d*) milk. 10. Name the muscles of the internal femoral region.

CHEMISTRY AND MATERIA MEDICA.

1. What chemical may be used to neutralize the action of hydrochloric acid when taken as a poison? 2. What pathologic changes are found in connection with a highly alkaline urine? 3. Name some of the chemical changes which take place as the result of action of bacteria. 4. What gas is present in a case of death by suffocation? Give its formula and what chemical is its antidote. Give its symbol. 5. What effect does formaldehyd have on the usual action of dirty milk, and what on the human system, or should that chemical be used by the farmer? 6. In what way does aqua pura or oxygen serve as a therapeutic agent? 7. Give uses of calomel at the present day and mention two forms or combinations in which it is used. 8. Give the doses of two of the coal tar products used as a febricide and care to be used in their administration. 9. Give uses, doses and form in which quinin should be administered. 10. Describe the therapeutic value of alcohol in the human system.

PATHOLOGY.

1. Describe the details of incisions at autopsy for the purpose of removing and examining the kidneys. 2. Describe the appearance of the inner walls of the bladder in chronic cystitis. 3. What are the most common pathologic changes found in the aged? 4. What is the causative factor in septicemia following the penetration of a rusty nail in the foot? 5. Describe the appearance of a heart affected with fatty degeneration. 6. Describe the appearance of tuberculosis of the intestines. 7. What pathologic change is a cause of alopecia? 8. What are the pathologic and mechanical changes which produce spinal curvature? 9. What internal or external lesions may be found present as causative of a hemorrhage in the abdominal cavity? 10. In case of death from retention of a foreign body in the lungs what pathologic changes would be found?

SURGERY.

1. Name the several forms of stricture of the esophagus. Give treatment of cicatricial stricture. 2. Give symptoms, prognosis and treatment of acute lymphangitis. 3. Give varieties and complications of hare-lip. Describe Golding-Bird's operation for same. 4. Give diagnosis and treatment of basal fractures of the skull. 5. Give treatment of gunshot wounds of the face. 6. How would you make a diagnosis of paralysis of the muscles below the seat of a fracture? Give prognosis and treatment of same. 7. Give signs and symptoms of fracture of the femur, with treatment of same. 8. Describe operation for ligation of the posterior tibial artery in its middle third. 9. Give symptoms of moist gangrene. 10. How would you treat a case of dermatitis venenata?

THEORY AND PRACTICE.

1. Describe a case of acute laryngitis; cause; treatment. 2. Differential diagnosis between cerebral hemorrhage and embolism. 3. Describe a case of chronic interstitial nephritis. 4. Lobular pneumonia. 5. Delirium tremens; give treatment. 6. Scarlet fever; give treatment. 7. Diagnosis and treatment of endocarditis. 8. Of gastroduodenitis. 9. Of appendicitis. 10. Of hypertrophic cirrhosis of liver.

OBSTETRICS AND GYNECOLOGY.

1. Give period of a normal term of gestation and causes which may shorten that period. 2. Name three of the most common causes of prématurе birth. 3. What procedures should be employed to resuscitate an infant apparently dead? 4. How diagnose the presence of a ruptured uterus and what treatment is called for? 5. When may anesthetics be used to advantage during labor? 6. Diagnose a case of prolapsus uteri and give cause for and treatment of same. 7. Describe differential diagnosis between ovarian cyst and fibroid of uterus. Give causes for dysmenorrhea. 9. Give treatment for gonorrheal vaginitis. 10. What pathologic conditions may produce a cystitis?

HYGIENE AND MEDICAL JURISPRUDENCE.

1. What judgment should be used in the use of baths in health? 2. How may we prevent the spread of communicable diseases? 3. Suggest a desirable method of ventilating a school room. 4. By what means and through what channels is the plague disseminated? 5. Why does suburban residence and occupations produce longer life, and why is the mortality in typhoid fever greater in the country? 6. Name three of the most common forms of insanity. 7. How may we compare a partly damaged bullet found in the tissues with others found in a revolver? 8. A physician is on trial for the death of a friend. The evidence is only circumstantial, although motive is in evidence. What especial examinations should be made at autopsy of deceased? 9. What stains of the clothing may appear like blood stains, and how may they be distinguished? Give one example. 10. A man dies a short time after being struck on the head with a bottle. What evidence would you require to satisfy a jury that that blow was the cause of death?

Medical Organization.

California.

PASADENA MEDICAL SOCIETY.—The members of this society have decided to affiliate with the Los Angeles County Medical Society in conformity with the standard plan.

MENDOCINO COUNTY MEDICAL SOCIETY.—This society was organized at Ukiah, October 8, with a charter membership of 12. Drs. Curtis G. Kenyon, Andrew W. Morton, and Philip M. Jones, all of San Francisco, a committee from the trustees of the state medical society, were present and aided in the work of organization. Dr. Edward W. King, Ukiah, was elected president; Dr. William N. Moore, Ukiah, vice-president, and Dr. Charles A. Poage, Hopland, secretary-treasurer.

SHASTA COUNTY MEDICAL ASSOCIATION.—On October 11 this society perfected its organization on the standard plan and elected the following officers: Dr. Olin J. Lawry, Redding, president; Dr. John M. Read, Redding, vice-president; Dr. R. F. Wallace, Redding, secretary; Dr. C. W. Harper, Redding, treasurer, and Drs. Adelbert B. Gilliland, Cottonwood, C. W. Bryant, Redding, and John M. Read, Redding, trustees. The membership of the society will include physicians of Trinity County.

Indiana.

MORGAN COUNTY MEDICAL SOCIETY.—Councilor Dr. Myron A. Boor of the Fifth District organized a county branch of the state medical society, on the standard plan, at Martinsville, recently.

PUTNAM COUNTY MEDICAL SOCIETY.—The physicians of the county met at the office of Dr. Clinton T. Zaring, Greencastle, October 13, and with the aid of Dr. Myron A. Boor, Terre Haute, councilor for the Fifth District, reorganized the county society in conformity with the standard plan.

SHELBY COUNTY MEDICAL SOCIETY.—Physicians from various parts of the county met at Shelbyville, October 12, and reorganized the county society, adopting the standard constitution and by-laws, and electing the following officers: President, Dr. Charles C. Cook, Gwynneville; vice-president, Dr. Bayard G. Keeney, Shelbyville; secretary, Dr. Franklin E. Ray, Shelbyville; treasurer, Dr. Frank Campbell, Shelbyville, and censors, Drs. Henry M. Connelly, Flat Rock, Henry E. Phares, Shelbyville, and I. W. Inlow, Blue Ridge.

Iowa.

MAHASKA COUNTY MEDICAL SOCIETY.—At the regular meeting of the society at Oskaloosa, October 9, Dr. David C. Brockman, Ottumwa, councilor for the Sixth District, was present and aided in the reorganization on the standard plan. The following officers will hold over until the annual meeting in January next: Dr. Joseph T. Coveny, president; Dr. Joseph C. Barringer, vice-president; Dr. Herman C. Homer, secretary, and Dr. Samuel W. Clark, treasurer, all of Oskaloosa.

Louisiana.

OUACHITA PARISH MEDICAL SOCIETY.—With the aid of Dr. John M. Barrier, Delhi, president of the state society, the physicians of the county organized a society at Monroe, October 17, on the standard plan. Dr. W. B. Miller, Fouche, was elected president; Dr. W. E. Pugh, vice-president, and Dr. Robert W. O'Donnell, secretary and treasurer.

ASCENSION PARISH MEDICAL SOCIETY.—With the assistance of Dr. John M. Barrier, Delhi, this society was organized at Donaldsonville, October 8, and the standard constitution and by-laws adopted. Dr. William M. McGailliard was elected president; Dr. Tuite H. Hanson, vice-president, and Dr. Paul T. Thibodaux, secretary-treasurer, all of Donaldsonville.

TANGIPAHOA PARISH MEDICAL SOCIETY.—Dr. John M. Barrier, Delhi, president of the Louisiana State Medical Society, organized this society on the standard plan at Amite City, October 19, with an initial membership of 18. Dr. John H. Ellis, Kentwood, was elected president; Dr. Charles S. Stewart, Amite City, vice-president, and Dr. J. S. LeNoir, Amite City, secretary and treasurer.

North Carolina.

ROWAN COUNTY MEDICAL SOCIETY.—This society met at Salisbury, October 12. Dr. Thomas E. Anderson, Statesville, councilor for the Eighth District, was present and offered for consideration the standard constitution, which was adopted. Drs. J. M. Flippin, Henry T. Trantham and John Whitehead, all of Salisbury, were elected censors.

Oklahoma.

NORTH OKLAHOMA MEDICAL ASSOCIATION.—This association was organized at Blackwell, October 13. Dr. Mark M. Lively, Blackwell, was elected president; Dr. Edward Hooper, Braman, vice-president; Dr. Henry F. Alexander, Blackwell, secretary, and Dr. Allen Lowery, Blackwell, treasurer.

Philippine Islands.

PHILIPPINE ISLANDS MEDICAL ASSOCIATION.—In order to comply with the standard requirements, a number of physicians, both American and native, met at Manila, September 15, and organized this association, adopting the standard constitution and by-laws, and electing the following officers: Dr. John Donelon, president; Drs. Trinidad H. Pardo de Tavera and Jose Albert y Mayoralgo, vice-presidents; Dr. William E. Musgrave, secretary-treasurer, and Drs. P. C. Freer, John R. McDill, Richard P. Strong, John Mage and Herbert W. Yemans, all of Manila. At the meeting a charter was granted to the Manila Medical Society.

Wisconsin.

MARATHON COUNTY MEDICAL SOCIETY.—Physicians of Marathon County met at Wausau, October 10, and organized a county society on the standard plan.

LANGLADE COUNTY MEDICAL SOCIETY.—The physicians of Langlade County met at Antigo, October 9, and organized a county society, with the aid of Dr. John M. Dodd, Ashland, councilor for the Tenth District. The following officers were elected: President, Dr. Ignatius D. Steffen, Antigo; vice-president, Dr. Michael J. Donohue, Antigo; secretary and treasurer, Dr. Frank I. Drake, Antigo; censors, Drs. Michael J. Donohue, Antigo, Flatley, and Fred V. Watson, Antigo, and delegate to the state medical society, Dr. Ignatius D. Steffen, Antigo.

GREEN COUNTY MEDICAL SOCIETY.—Fourteen physicians of the county met at Monroe, October 16, and elected Dr. George W. Roberts, Albany, temporary chairman. After discussion of the plan of organization proposed by the national, and endorsed by the state association, the organization was perfected by the adoption of the standard constitution and by-laws, and the election of the following officers: Dr. Samuel Moyer, Monroe, president; Drs. Thomas W. Nuzum, Brodhead, and Henry B. Gifford, Juda, vice-presidents; Dr. William B. Monroe, Monroe, secretary; Dr. John G. Randall, Monroe, treasurer; Dr. Nathan A. Loofbourow, Monroe, delegate to the state society; Dr. Eli W. Fairman, alternate, and Drs. George W. Roberts, Albany, William B. Gnagi, Monroe, and Elias J. Helgesen, New Glarus, censors.

Society Proceedings.

COMING MEETINGS.

Hawaiian Territorial Medical Society, Honolulu, Nov. 7.
Oklahoma Territory Medical Association, Oklahoma City, Nov. 11.
Southern Surgical and Gynecological Association, Birmingham, Ala., Dec. 15.
Western Surgical and Gynecological Association, Denver, Dec. 28-29.

PENNSYLVANIA STATE MEDICAL SOCIETY.

Fifty-third Annual Meeting, held at York, Sept. 22 to 24, 1903.

(*Concluded from page 1040.*)

Differential Diagnosis Between Friedreich's Disease and Insular Sclerosis.

DR. F. SAVARY PEARCE, Philadelphia, read a paper by this title. Insular sclerosis, as a rule, begins between the ages of 20 and 30. The gait may vary, being spastic, cerebellospastic or cerebellar. In the latter case would occur the confusion. The occurrence, however, of rigidity with nystagmus, staccato speech and intention tremor would aid in diagnosis. Apoplectic attacks, bulbar symptoms and the liability for the disease to completely recede, it is said, would all seem to make diagnosis clear in the majority of cases.

Inflammation of the Middle Ear in Diseases of Children.

DR. THEODORE J. ELTERICH, Allegheny, said that statistics regarding the occurrence of unrecognized middle ear inflammation are so startling that it becomes a duty to examine the ears of young babies suffering from diseases apparently trivial. Of 100 cases examined by Ponfick 35 per cent. of the cases of acute middle ear inflammation occurred in infants dying of acute gastro-enteritis. In all these cases there had been no pain or external ear symptoms. The diagnosis of middle ear inflammation in young infants the writer considers well-nigh impossible in some instances. As soon as aural complication is detected gentle inflation should be made by the Politzer bag. The application externally of dry heat and the instillation of atropin dissolved in glycerin and water are recommended; about 1 grain of atropin to 1 dram each of glycerin and water. In addition 1 or 2 grains of phenacetin or an opiate should be given if required. For the congestion of the tympanic membrane he recommends bromid of sodium in small and repeated doses. These measures failing, paracentesis with the knife under strict antiseptic precautions should be done.

The Result of One Year's Medical Treatment of Gastroptosis.

DRS. J. DUTTON STEELE and ALBERT P. FRANCINE, Philadelphia, described observations on 30 cases and concluded that: 1. In one-fifth of the cases the symptoms were due to downward displacement of the stomach. 2. Long continued mechanical support does not permanently restore the stomach to its normal position. 3. In cases in which the gastric symptoms are caused by uncomplicated downward displacement of the stomach the results of medical treatment have been very gratifying.

DISCUSSION.

DR. THEODORE DILLER, Pittsburg, had observed in two cases of neurasthenic women great benefit from the use of abdominal supports.

DR. R. H. GIBBONS believes that cases which have gone beyond a very slight dilatation should be treated surgically, preferably by Beyea's method, which he considers the best operation invented in modern times.

DR. S. SOLIS-COHEN took exception to the use of the term neurasthenia as a result of gastroptosis or displaced kidney. While there might be a collection of symptoms resembling in some degree neurasthenia, the condition was not neurasthenia, which was a distinct disease or nerve exhaustion.

DR. DILLER said that he regarded his two patients as having a vitality decidedly below par and that he considered the condition of the viscera dependent on the neurasthenia. Neurasthenia he considers a matter, not of the neurons alone, but of the whole organism. In agreement with this he had understood Dr. Steele to say that in four-fifths of the cases he regarded the falling of the viscera a symptom of neurasthenia.

DR. ERNEST LAPLACE agreed with Dr. Diller. Supportive treatment alone, he believes, will not put the patient into the condition in which he will absorb the proper nutrition for his tissues, and only the surgeon can remove the cause of depression. Afterward medical treatment can make them perfectly healthy.

DR. J. D. STEELE agreed with Dr. Diller's statement of the case, but he would consider gastroptosis a complication rather than a symptom in neurasthenia. It is considered that gastroptosis is probably a link in the vicious circle.

Decapsulation of the Kidney for Chronic Bright's Disease.

DR. JAMES TYSON gave a historical summary and reported a case in detail. He regards the operation as at least life prolonging, as curative in some and as applicable to cases other than those of nephritis in its various forms. Dr. Tyson assumes that the operation should not be done until medical measures have been thoroughly applied; yet it should not be deferred until the patient is moribund. He considers parenchymatous nephritis more favorable for operation than interstitial. Further application of the operation is suggested in cases of obstinate so-called idiopathic hematuria.

DISCUSSION.

DR. S. SOLIS-COHEN spoke of a case of hematuria in which there was floating kidney, much enlarged, accompanied with albuminuria, hyaline and granular casts, and which was operated on by Dr. J. Chalmers DaCosta. It being considered unwise to decapsulate the kidney, the capsule was incised in various directions. Improvement was immediately manifest and the woman has gained forty pounds in weight. There is still occasional hematuria, but stone has not been proven to be present.

DR. RICHARD HENRY GIBBONS does not feel that the benefits of the operation come from the relief of tension, for there is but little tension in nearly all cases. He referred to a case of hematuria in which the kidney was opened but no stone found, and which, nevertheless, recovered.

Modern Treatment of Fractures with Special Reference to the Lower End of the Humerus and the Bones of the Leg.

DR. HIRMA S. MCCONNELL, New Brighton, read this paper at the Wednesday afternoon session and suggested the advisability of more thorough instruction in medical schools, and gave in detail the technic to be pursued.

DR. EDWARD MARTIN, Philadelphia, read a paper on "Surgical Treatment of Recent Fracture of the Patella," in which he stated that all fractures of the patella, in which the fragments are separated more than half an inch, or which are

attended by marked immediate joint tension, should be treated by the open method.

Retrodisplacements of the Uterus.

DR. J. M. BALDY, Philadelphia, in this paper expressed the belief that very few cases of this condition occur as a primary condition. He condemned the free use of pessaries and thought that the intra-abdominal was the preferable operation for shortening the round ligament.

DISCUSSION.

DR. E. E. MONTGOMERY, Philadelphia, felt that Alexander's operation should never be performed as a matter of choice, and that ventrofixation and ventrosuspension should only be performed when the patient is past the menopause. He believed the intra-abdominal operation devised by Ferguson to be the preferable one.

DR. RICHARD H. GIBBONS, Scranton, felt that either the operation devised by Webster of Chicago or Edebohls' modification of the Alexander operation were excellent procedures, but the latter was condemned by Dr. Baldy, in closing the discussion, on account of the danger of hernia.

Some Observations on the Pathology and Treatment of Empyema.

DR. P. Y. EISENBERG, Norristown, advocated: 1. Free evacuation of the pus cavity. *a.* Aspiration. *b.* Free incision. *c.* Resection of a rib or ribs. 2. Irrigation of the pus cavity. 3. Drainage.

DISCUSSION.

DR. W. W. KEEN, Philadelphia, reported a case illustrating the necessity for adequate drainage and the removal of the enormously thickened serous membrane in the chronic cases.

DR. LOWELL M. GATES, Scranton, said that in most of the cases there should be resection of the ribs and drainage by means of drainage tubes.

DR. RICHARD H. GIBBONS, Scranton, recommended gauze drainage.

DR. ERNEST LAPLACE, Philadelphia, called attention to the possibility of multiple abscesses and the necessity for accurate diagnosis.

DR. HERMAN B. ALLYN referred to the difficulty of differentiating cases in which there was bronchial breathing from pneumonia.

DR. JOHN B. ROBERTS, Philadelphia, felt that resection of the ribs was in many cases unnecessary and should be determined by the study of the individual case.

DR. G. FRANKLIN BELL, Newberry, felt that the operation should depend on the bacterial element and the size of the abscess cavity.

DR. GEORGE W. GUTHRIE, Wilkesbarre, felt that resection of the ribs was necessary in comparatively few cases, and recommended an incision in the most dependent portion of the pleura and the insertion of a double drainage tube.

The Treatment of Suppurating Ulcers of the Cornea.

This paper by Dr. Lewis H. Taylor, Wilkesbarre, was read by Dr. Ernest U. Buckman, Wilkesbarre, in which the author urged the importance of prompt attention to all wounds of the cornea and when they show a tendency to virulent suppuration the application of the galvanic cautery.

DISCUSSION.

DR. B. ALEXANDER RANDALL, Philadelphia, spoke with favor of the method employed by Lippincott of cauterizing the cornea with hot water, and preferred eserin to either cocain or atropin.

DR. W. H. DUDLEY felt that the method of Lamb of New York of circumscribing the area of the ulcer and thus preventing its extension was more efficient than trying to destroy it.

Papers on Puerperal Sepsis and Appendicitis.

"The Treatment of Puerperal Sepsis" was read by Dr. E. E. Montgomery, Philadelphia, in which he emphasized the importance of differentiating between germicidal infection and the results of putrid intoxication, and outlined the course of treatment appropriate to each.

"Differences in the Management of Appendicitis and Salpingitis" was read by Dr. George E. Shoemaker, Philadelphia, in which he stated that in salpingitis conservation might be justifiable, while in appendicitis radical procedure was the only safeguard.

"One Year's Work in Appendicitis" was read by Dr. John B. Deaver, Philadelphia, in which he reported 566 cases operated on between Sept. 1, 1902, and Sept. 1, 1903, with a mortality of 5 per cent. He divided the cases into three classes: 1. Those suffering from diffuse peritonitis, in which 16 were operated on with five deaths, or 31 per cent. 2. Those in which there was a localized abscess, numbering 183 cases with 22 deaths, or 12 per cent. mortality. 3. Those in which the disease was confined to the appendix, numbering 367, with 3 deaths, or 0.8 per cent. mortality. In conclusion he urged the necessity for early operation.

Other Papers Read.

The following papers were also read:

"Gynecologic Therapy, a Plea for Operative Conservatism," by Dr. Charles F. Spangler, Kan. "Three Unusual Vesical Cases, with Operation," by Dr. Ella B. Everitt, Philadelphia. "The Obstetric Experience of a Country Physician," by Dr. H. C. McKinley, Myersdale. "The Management of the Pus Appendix," by Dr. G. W. Guthrie, Wilkesbarre. "The Value of the Differential and Absolute Leucocyte Count in Cases Simulating Appendicitis," by Dr. A. Snively, Waynesboro. "The Treatment of Suppurative Appendicitis," by Dr. Ernest Laplace, Philadelphia. "Perforated Gastric and Duodenal Ulcers, with Report of Three Cases Operated On," by Dr. John H. Gibbon, Philadelphia. "Extensive Decapsulation Combined with Fixation of Every Movable Kidney to Prevent Bright's Disease; Complete Decapsulation for the Cure of Bright's Disease and for the Relief and Prevention of Puerperal Convulsions," by Dr. R. H. Gibbons, Scranton. "Four Cases of Penetrating Wound of the Orbit," by Dr. A. R. Craig, Columbia. "A Sarcoma of the Maxillary Antrum and Orbit," by Dr. J. F. Klinedinst, York. "Statistics Relating to 1,135 Cases of Refraction Occurring in Private Practice," by Dr. M. V. Ball, Warren. "An Investigation of Certain of the Reflexes and Sensory Phenomena and the Condition of the Eye-grounds, Based on a Study of 103 Healthy Young Men," by Dr. Theodore Diller, Pittsburg. "The Upper Respiratory Tract," by Dr. J. C. McAllister, Ridgeway. "The Syphilitic Nose and Throat," by Dr. Charles P. Grayson, Philadelphia. "Some of the More Unusual Results of Movable Kidney," by Dr. Charles P. Noble, Philadelphia. "Surgical Treatment of Facial Palsy," by Dr. Charles H. Frazier, Philadelphia. "Drugs Useful in Cardiac Affections," by Dr. S. Solis-Cohen. "A Fatal Case of Chorea, Complicated by Endocarditis, Pericarditis and Nephritis," by Dr. Augustus A. Eshner. "Four Cases of Malignant Diseases of the Lungs," by Dr. J. C. Lange, Pittsburg. "Affections of the Eye Associated with Diseases of the Contiguous Sinuses," by Dr. S. D. Risley, Philadelphia. "The Operative Treatment of Strabismus," by Dr. Wendell Reber, Philadelphia. "The Differential Diagnosis of Exophthalmos," by Dr. Joseph E. Willets, Pittsburg. "Danger Signals of Intracranial Infection from the Pneumatic Cavities of the Ear and Nose," by Dr. B. Alex. Randall, Philadelphia. "The Use of Myelocene in Catarrhal Deafness," by Dr. Walter B. Weidler, Lancaster. "Some of the More Infrequent Causes of Obstruction of the Common Bile Duct," by Dr. Levi J. Hammond, Philadelphia. "The Results of the Surgical Treatment of Ascites Occurring in Cirrhosis of the Liver, with Report of a Case," by Dr. Herman B. Allyn, Philadelphia. "Abdominal and Pelvic Surgery without Ligatures; Electro-Thermic Hemostasis," by Dr. Andrew J. Downes, Philadelphia.

MISSISSIPPI VALLEY MEDICAL ASSOCIATION.

Twenty-ninth Annual Meeting, held at Memphis, Oct. 7 to 9, 1903.

(*Concluded from page 1042.*)

In the surgical section a paper on "Technic of Mirror Sight" was read by Dr. Allen De Vilbiss, Toledo, Ohio, who discussed why the general practitioner should understand the subject, and offered a few suggestions how to learn it.

Principles in the Treatment of Chronic Otitis Media Purulenta.

DR. JOHN F. BARNHILL, Indianapolis, stated that all aural discharges, except those due to tubercle or cancer, are curable by the methods used for similar conditions in other parts of the body. Cure would be simple and easy were it not for the concealed and inaccessible situation of the disease. All treatment is likely to be unwisely directed until the cause is ascertained. If, after all parts have been thoroughly treated that are accessible to surgical and medical measures through the route of the external meatus, the disease continues, sound surgical principle dictates that the disease should be followed to its origin and thoroughly eradicated. This necessitates, in most instances, the radical mastoid operation. Wilde's incision or gimlet trephining of the mastoid is not based on sound surgical principles, and should be entirely abandoned.

DISCUSSION.

DR. J. A. STUCKY, Lexington, Ky., said that there are those who still believe in the use of laudanum and sweet oil, yet it

is well known that laudanum had no place as a local application in a chronically discharging ear. Furthermore, any oil except glycerin is positively contraindicated. He emphasized the importance of thoroughly cleansing the ear, saying that while this was apparently a simple procedure, nine times out of ten it was not half done.

Nasopharyngeal Adenoids.

DR. J. A. STUCKY, Lexington, Ky., presented the following deductions: The obstructive and non-obstructive adenoid tissue, when diseased, is a menace to health, hearing, mental and physical development, and should be radically dealt with, as it is far more serious in its effects than disease and enlargement of the faucial tonsils. Frequently, when the pharyngeal tonsil is thoroughly removed, the enlarged faucial tonsils rapidly assume normal size and function.

DISCUSSION.

DR. A. J. OCHSNER, Chicago, emphasized that adenoids are constantly exposed to the absorption of septic material.

DR. J. F. BARNHILL said he believed that affections of the stomach arise from catarrhal discharges caused by adenoids. When it is realized that the greatest per cent. of all ear diseases is due to adenoids alone, from a causal standpoint it is very important to remove the cause.

The Diagnosis and Operation for Gallstones.

DR. W. D. HAGGARD, Nashville, Tenn., in this paper, said that the most valuable local sign is hypersensitiveness under the tip of the ninth costal cartilage. Stones in the gall bladder without inflammatory or other complications are never attended by enlargement, and empyema is also characterized by tumefaction. Stones in the gall bladder without inflammatory or other complications are never attended by enlargement, and an enlarged gall bladder means there is no stone in the common duct, as enunciated by Courvoisier. This is a most valuable differential sign. In biliary obstruction manifested by chronic jaundice, an enlarged gall bladder means that the obstruction is not due to a stone. Gallstones and certain stomach, appendix or kidney lesions may coexist. The technic of various operations was described.

DISCUSSION.

DR. H. H. GRANT said that exploration was justifiable whenever disease of the gall bladder was reasonably probable. It is more prudent to explore than to allow serious complications to arise.

DR. LEWIS S. MCMURTRY narrated a case to illustrate that there might be stones in the common duct without any jaundice, and, also, that in some of these operations there is danger of death from the inflammatory changes that have taken place.

DR. A. H. CORDIER said that where the stones are in the common duct, regardless of whether there was jaundice or not, the pain is very much nearer the median line than when they are in the cystic duct or in the gall bladder.

The Prophylaxis of Tetanus.

DR. S. C. STANTON, Chicago, contributed a valuable statistical paper, calling attention to the investigations of THE JOURNAL of the American Medical Association on this important subject. He recommended prophylaxis under five heads: 1. The enforcement of existing laws regarding the sale of toy pistols and other dangerous toys. 2. The enactment of laws by Congress, state legislatures and municipalities prohibiting the manufacture and sale of toy pistols, blank cartridges, dynamite canes and caps, cannon crackers, etc. 3. The open treatment of all wounds, however insignificant, in which, from the nature or surroundings, there is any risk of tetanus. 4. The immediate use of tetanus antitoxin in all cases of Fourth-of-July wounds, wounds received in barnyards, gardens, or other places where the tetanus bacillus is likely to be present or tetanus infection to occur. 5. The injection of tetanus antitoxin as soon as tetanic symptoms become manifest.

The association took action on the paper, endorsing the above recommendations and instructing the secretary to send the recommendations and the association's action thereon to the medical press, the Associated Press, and the various state medical societies, asking that they take action thereon.

Indications and Technic of Prostatectomy.

DR. G. FRANK LYDSTON, Chicago, pointed out that the senile prostate was an atrophied prostate. Catheter life lasts about five years. In prostatic hypertrophy, he believes the tumor to be purely adenomatous at the outset. He had no hesitation in saying that early operations on the prostate in otherwise healthy subjects are no more dangerous than interval operations for appendicitis. The perineal operation should be performed whenever practicable, but he was aware that there were cases which could not be dealt with sucessfully by this route; therefore, it might become necessary to do a combined perineal and suprapubic operation.

Surgery of Pulmonary Gangrene.

DR. L. L. MCARTHUR, Chicago, after reporting cases, presented these conclusions:

1. Since by medical treatment 80 per cent. of patients die and in those operated on about 29 per cent., efforts should be surgical.
2. While it is anatomically possible to separate the pleura from the chest wall, it is tedious, difficult and often futile (due to puncture), and, therefore, not much valuable time should be lost in such efforts.
3. Circular suture, combined with gauze pressure packing for forty-eight hours, is the best means of inducing adhesions.
4. The *x*-ray may give valuable aid in localization.
5. Great care should be used in the selection of cases for operation, but when localized and single, the most desperate cases should be given a chance, as they frequently recover with drainage.

The Present Status of Stomach Surgery.

DR. A. J. OCHSNER, Chicago, in this valuable paper, discussed the various conditions in detail, and concluded that if severe pathologic conditions of the stomach exist, which can not be relieved medically in a reasonable period of time, and which can neither be traced satisfactorily to a neurosis not secondary to gastric disease, nor to other conditions, it would seem proper to attempt relief by early surgical treatment.

Among the other papers read were the following:

"The Perfected Surgical Treatment of Fibroid Tumors of the Uterus," by Dr. Lewis S. McMurtry, Louisville, Ky. "Changes in the Gullet Wall Following the Destructive Action of Escharotics," by Dr. Joseph Rilus Eastman, Indianapolis. "Extrauterine Pregnancy," by Dr. A. H. Cordier, Kansas City, Mo. "The X-ray in Fractures," by Dr. Duncan Eve, Nashville, Tenn. "Treatment of Compound Fractures, Immediate and Remote," by Dr. Frederic A. Besley, Chicago. "Ectopic Gestation," by Dr. Anderson Watkins, Little Rock, Ark. Dr. A. R. Craig, Columbia, Pa., reported cases of gunshot wounds: Drs. Bransford Lewis, St. Louis, and W. N. Wishard, Indianapolis, showed instruments, and Dr. H. J. Whitacre, Cincinnati, discussed "The Pathology and Treatment of Gangrene of the Lower Extremities."

CONFERENCE OF STATE AND PROVINCIAL BOARDS OF HEALTH OF NORTH AMERICA.

Eighteenth Annual Meeting, held in Baltimore, Oct. 23 and 24, 1903.

The vice-president, Dr. John Guiteras, Havana, in the Chair.

A welcome was extended by Dr. Eugene F. Cordell, president of the Medical and Chirurgical Faculty of Maryland and by Dr. William H. Welch, president of the Maryland State Board of Health.

Reports were presented on the following subjects: Rules Governing the Transportation of the Dead; Promotion of Uniformity of Reports on Vital Statistics; Work of the Maryland State Tuberculosis Commission. About 30 attended the conference.

New Officers.

The following were elected officers for the ensuing year: President, John M. Hurty, M.D., Indiana; secretary, Gardner T. Swarts, M.D., Rhode Island; treasurer, J. A. Egan, M.D., Illinois; vice-president, John S. Fulton, M.D., Maryland.

Papers were read as follows: 1, "Etiology and Prevention of Infantile Diarrhea," by Dr. J. H. Mason Knox, Baltimore; 2, "Are the Laboratory Methods of Diagnosis in Infantile Diarrhea Applicable in Public Health Work?" by Mr. Edwin G. Shorer, Baltimore; 3,"Duty of Sanitarians Regarding Venereal Diseases," by Dr. Henry D. Holton, Brattleboro, Vt.; 4, "Another Year's Test of the Mosquito Doctrine of the Transmission of Yellow Fever in Havana," by Dr. John Guiteras, Havana.

Yellow Fever and Mosquitoes.

DR. GUITERAS reported that in over two years there had not been a single indigenous case of yellow fever in Havana. During the last year there were 8 cases admitted to Las Animas Hospital, all coming from Mexico; one of those died on the third day. There were 131 non-immune patients in the same institution during the same period, but the disease was absolutely controlled by isolation, wire screens, mosquito nets and destruction of the mosquitoes by burning pyrethrum powder in the rooms. The fatal case showed the value of these measures very strikingly. A man was over two days in the lower part of the city, the former focus of infection, before he went to the hospital. During this time he was bitten by mosquitoes repeatedly, yet by the destruction of these in the house where he had been and in the houses of the entire square, the spread was entirely prevented. Dr. Guiteras detailed the prophylactic methods, which are familiar to our readers.

The people of Havana have implicit confidence in the measures employed there, which can be readily carried out. The presence of a case of yellow fever creates no alarm. In one of the 9 cases, a patient coming on the steamer from Mexico was forcibly removed from it against the wishes of the captain, because the authorities of Havana knew they could deal effectually with it and feared if it were permitted to remain the vessel might become infected before reaching New York or the disease might get a foothold in that city.

Venereal Prophylaxis by Health Boards.

As a result of Dr. Holton's paper a committee was appointed in accordance with the following resolution, which was proposed by Dr. Probst and adopted by the conference:

WHEREAS, The great prevalence of venereal diseases, which is indirectly the cause of many deaths, is a matter of much concern to the public health; and,

WHEREAS, The communication of these diseases to innocent persons must be largely due to ignorance; be it

Resolved, That a committee of three be appointed by the president to prepare a leaflet that would be acceptable to physicians to give to their patients, setting forth the precautions to be taken by one suffering from a venereal disease to prevent its communication to others, and to make such other suggestions as it may deem proper. Such instructions, when adopted by this conference, to be recommended to state and provincial boards of health for dissemination among the medical profession, and said committee shall report at the next meeting.

National rules to govern the transportation of the dead were adopted.

The Etiology and Prevention of Infantile Diarrhea.

DR. JOHN H. MASON KNOX, Baltimore, in the paper mentioned above, said that the pathogenicity of the *Bacillus dysenteriæ* was now well established. In his own investigations no one type of the disease was associated with this organism; but all types of intestinal diseases, common among children in summer, were caused by the same organism. Laboratory investigation had shown two or three types of organism very closely related. Cases also occurred in winter. He emphasized the importance of supplying the children of our large cities with pure milk and uncontaminated water.

MR. EDWIN G. SCHORER, Baltimore, in his paper, said that with the establishment of the etiology of infantile diarrhea a great step in advance had been made, yet, under the present conditions, methods of diagnosis are not available for, or applicable to, public health work. This last statement may, however, be limited, inasmuch as a bacteriologic diagnosis will undoubtedly be of value in the limited number of persistent cases of diarrhea and in those in which the antidysenteric serum is to be given.

DISCUSSION.

DR. WILLIAM H. WELCH, Baltimore, was surprised that Dr. Knox had found the organism, which had been proven to be the cause of a prevalent group of cases of dysentery, to be the cause of summer diarrheas of children. The organism must be found in other localities than Maryland in order to demonstrate that it has any causal relation to summer diarrhea of children.

DR. HENRY M. BRACKEN, Minneapolis, discussed the milk question, recommending certified milk when an artificial diet is necessary for children. More infants die every year, he said, from impure milk than from tuberculous milk. More attention should be given to the sanitary aspects of the dairy than to the diseased animal. Certified milk and pasteurized milk are as satisfactory articles of diet as can now be obtained.

DR. CHARLES O. PROBST, Columbus, Ohio, considered it very important to disinfect the stools in infantile diarrhea.

MR. FRANK WELLS, Lansing, Mich., said the Michigan State Board of Health had published a leaflet on the subject of infantile diarrhea, which had been given wide circulation and which advised that all cow's milk given to infants should be pasteurized. The leaflet was furnished to all of the teachers of public schools in Michigan. It was the duty of boards of health, he thought, to furnish such information to the people.

DR. HENRY MITCHELL, Asbury Park, N. J., urged repeated inspections of cases of diarrhea in both children and adults, as in cases of typhoid fever. The New Jersey legislature had given the State Board of Health authority to make such inspections.

Others discussed the subject and Dr. Knox, in closing the discussion, agreed with Dr. Probst that the disinfection of stools in infantile diarrhea is as essential as in typhoid fever. In answer to one of the questions asked, Dr. Welch said the Shiga organism was not present in normal stools. If it were, it was in such small numbers that it required the most painstaking investigation to find it.

NEW YORK STATE MEDICAL ASSOCIATION.

Twentieth Annual Meeting, held in New York City Oct. 19-22, 1903.

The president, Dr. F. H. Wiggin, New York, in the Chair.

The New Officers.

The following officers were elected: President, Dr. William H. Thornton, Buffalo; vice-president, Dr. Charles S. Payne, Liberty; secretary, Dr. Guy D. Lombard, New York; treasurer, Dr. Frederick A. Baldwin, New York; delegates, Drs. Joseph W. Grosvenor, Buffalo, and E. Eliot Harris, New York.

It was announced that during the past year 14 new county medical associations had been added, and 372 persons added to the list of active members. The present membership is 1,757.

The association adopted the Kyger resolutions (which have been printed in THE JOURNAL) which call attention to the lessened birth rate among Americans and urge the prohibition of the publication of abortion advertisements. There were also adopted the American Medical Association resolutions on the examination of the eyes of school children. The association voted to continue the endeavor to have the office of coroner abolished.

Stab Wounds of the Abdomen.

DR. F. J. DOUGLAS, Utica, read this paper, emphasizing the uncertainty of the symptomatology and the consequent necessity for prompt exploratory laparotomy. Probing was strongly condemned. After suturing any wounds of the viscera the cavity should be flushed out, and the wound closed, usually without drainage.

The Relation of the Municipal Milk Supply to the Health of Children.

DR. GEORGE W. GOLER, Rochester, compared mortality statistics of that city for the two periods, 1891-96 and 1897-1902, i. e., the periods before and after the adoption of a bacterial standard of purity, and a systematic attempt to secure cleaner milk. This showed a reduction in mortality during the latter period of 65 per cent. for infants during the first year of life, and of 58 per cent. for children between one and five years of age. For the past four years the city of Rochester had endeavored to make the city milk conform to a standard of 100,000 bacteria per c.c. Just before this standard was made 27 per cent. of the samples analyzed showed an average of 837,000 bacteria; whereas just after this time 391 samples averaged 796,000 bacteria and 15 per cent. of the samples contained over five million per c.c. In 1901 the average was 275,000 bacteria, with 9 per cent. of the samples showing over five million bacteria. In 1902 the average was 215,000, 74 per

cent. of the samples coming within the standard and only 6 per cent. showing over five million. Since 1897 milk stations had been established during the summer for the purpose of supplying at cost clean milk for infants. Last summer this milk showed only 14,000 bacteria as against 235,000 bacteria per c.c. for the ordinary city milk on the same days.

DR. H. O. MARCY, Boston, described a method of refrigerating and condensing milk that had been in operation in New Hampshire for six years. Milk so treated would keep sweet for two weeks. He confidently expected it would revolutionize the milk business.

The Causes of Failure After Operation for Nephroptosis.

DR. AUGUSTIN H. GOELET, New York, read this paper. Among some of the causes enumerated were the following: (1) Delay in operating until the patient's condition was bad and the kidney disabled; (2) the existence of severe enteroptosis; (3) the neglect to so prepare the patient as to minimize retching and vomiting after operation; (4) incomplete detachment of the colon; (5) penetration of the structure of the kidney by sutures; (6) attachment of the kidney so low down as to expose it to the pressure of the corset; (7) to early removal of the sutures; (8) prolonged retention of the gauze drain; (9) allowing the patient to turn on the opposite side or to assume the erect position too soon; (10) the neglect to apply a proper support to the abdomen afterward or the too early use of the corset.

Ergot in Alcoholism and Morphinism, and the General Class of Drug Habit Cases.

DR. ALFRED T. LIVINGSTON, Jamestown, read this paper. He believed that the nervous disturbances experienced by these patients were the result of a disturbance of the vascular system, and that the restoration of the equilibrium of the circulation should be the object of treatment. This can be brought about in several ways, but the most certain and potent is by the hypodermic administration of ergot. This drug not only contracts the muscular coat of the blood vessels, but the degree of action is proportionate to the relaxation of those muscular fibers. The first step in the treatment of a drug habit is, of course, to wholly stop the use of the drug; the next is to give a purgative and begin the use of ergot. The bowels should be kept relaxed, preferably by giving one or two drams of the fluid extract of *Rhamnus frangula* from one to three times a day. Ordinarily, two or three injections of half a dram each of his 12.5 per cent. solution of ergot will be enough per diem, but occasionally it will be necessary to give it every two hours. (See formula, etc., in THE JOURNAL, March 21, 1903, page 774). He had never had a patient request the drug, or show any desire for it after the first forty-eight hours. In the very severe forms of the morphin or opium habit it was occasionally better to give, with the ergot, a fraction of the former daily dose of the drug, reducing the dose of the narcotic one-half each day until it is wholly stopped by the eighth day. In the treatment of these difficult cases the use of hypnotics should be avoided if possible. If they seemed to be urgently indicated, rather than give them he would resort to the use of galvanism. A current of 10 or 15 milliamperes should be employed, and should be applied to the cervical ganglia and, by stroking motions, to the whole length of the spine, holding the electrodes about five inches apart.

DISCUSSION.

DR. ALEXANDER LAMBERT, New York, spoke of his experience with the ergot treatment in the alcoholic wards of Bellevue Hospital. An experience of a number of years showed that in his service of six weeks there were usually 25 or 30 deaths under all the generally accepted methods of treatment, and that in the cases known as "wet brains" he could not save more than 3 per cent. Since the adoption of the ergot treatment his six weeks' service had yielded, on an average, only 6 or 7 deaths, and, most remarkable of all, he had only lost 2 out of 30 cases of wet brain. His method was to inject 30 minims of the solution of ergot, repeat this in one hour, and then give it at intervals of two hours. When a patient was disposed to be violent or greatly excited the first injection contained, also, a dose of apomorphin, as this produced an almost immediate calming effect.

DR. F. H. WIGGIN also spoke favorably of the use of ergot in delirium tremens and obstinate insomnia, but said he had found it necessary to use doses of 50 or 60 minims.

Results of Operative Treatment of Cancer of the Rectum.

DR. JAMES P. TUTTLE, New York, read this paper and exhibited some patients. He gave the results obtained by him in 43 excisions, and asserted that no other method than extirpation had ever cured a single case of carcinoma of the rectum or sigmoid. Colostomy was the only operation that could be compared with it, and his belief was that colostomy did not prolong life and was only indicated when scirrhous growths completely occluded the gut, or the growth was of the hemorrhagic type. Extirpation gave complete relief and buoyed up the patient with the possibility of a cure. Of the 43 cases, 12 were unsuccessful; 22 are now living and well, after periods of from 2 to 11 years. The speaker said that every case of diarrhea, with or without bloody discharges, lasting over a fortnight should be subjected to an instrumental examination of the rectum or colon. A failure to make an early diagnosis is the greatest cause of death, and next to it came infection, but very often the latter could not be avoided. A carcinoma that was not movable was usually considered inoperable, but he had several seemingly hopeless cases that he had been tempted to operate on by the earnest entreaties of the patient, and the fact that every now and then life could be spared and the person restored to usefulness and comfort should make the surgeon chary about absolutely refusing to operate even though the chances of benefit were slight.

One of the Dangers in the Surgery of the Biliary Passages.

DR. E. D. FERGUSON, Troy, said that the surgeon should endeavor to secure a symptomatic cure rather than to do an ideal operation. The operation which gives the least shock is usually the formation of a temporary biliary fistula after the removal of the gallstones.

Extradural Abscess and Mastoid Disease.

DR. SEYMOUR OPPENHEIMER, New York, said that epidural abscess was the most frequent intracranial complication of mastoid disease, yet the early symptoms afford no basis for proper differentiation. Pain in the head over the affected area is an important symptom, which is apt to be paroxysmal and associated with exquisite tenderness. If rigors are present there is reason to suspect sinus involvement.

DR. FRANK W. HIGGINS, Cortland, suggested that in exploring the brain for pus accumulations it would be helpful to remember that these abscesses were three times more frequent in the middle than in the posterior fossa.

(To be continued.)

Therapeutics.

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment are answered in these columns without allusion to inquirer.]

Toxic Actions of Urotropin.

The toxic action of urotropin, as described by Coleman in *Med. News*, is shown in some individuals, even though given in small doses. The symptoms of toxicity shown are irritation of the stomach; diarrhea and abdominal pain; measles-like rash; headache and ringing in the ears; renal irritation sometimes accompanied by albuminuria. The bladder sometimes presents toxic effects, strangury being the most common symptom. Hematuria and hemoglobinuria may occur. The toxic symptoms generally disappear within a few days after the drug is withdrawn. The author concludes that these toxic symptoms are caused either from special susceptibility to the action of the formaldehyd or to interference with its elimination or to an unusual liberation of formaldehyd in the system.

Cystitis.

There is an advantage, according to the *Jour. de Med. de Paris*, in prescribing salol internally in the form of an emulsion instead of powder form in the treatment of cystitis. The following formula is recommended:

℞.	Salol	gr. xxx-3i	2-4 |
	Pulv. tragacanthæ	gr. ii	|12
	Pulv. acaciæ	gr. xxx	2 |
	Tinct. tolutani	3i	4 |
	Syr. simp.	3ss	15 |
	Aq. destil. q. s. ad	3ii	60 |

M. Sig.: Ft. emulsio. Sig.: One teaspoonful before each meal.

The following combinations are recommended by *Merck's Archives* in the treatment of cystitis:

To relieve the pain:

℞.	Ext. opii	gr. vi	|40
	Ext. hyoscyami	gr. v	|30
	Olei theobrom. q. s.		|

M. Ft. suppos. No. vi. Sig.: One to be introduced into the rectum at night; or:

℞.	Pulv. opii	gr. xii	|75
	Camphoræ	3ss	2 |
	Ext. belladonnæ	gr. iii	|20
	Olei theobrom. q. s.		|

M. Ft. suppos. No. vi. Sig.: One to be inserted at bedtime.

As an antiseptic and to relieve the irritation the following is of service:

℞.	Ext. belladonnæ flu.	gtt. xx	1|30
	Sodii boratis	3ii	8 |
	Acidi benzoici	gr. xx	1|30
	Tinct. opii camph.	3iss	45 |
	Olei gaultheriæ	gtt. xii	|75
	Syrupi	3ii	60 |
	Aq. destil.	3iv	120 |

M. Sig.: One dessertspoonful in water four times a day.

Acute Gastro-Enteritis of Nurslings.

There are three therapeutic indications according to Hutinel in *Interstate Med. Jour.*, for the treatment of acute gastro-enteritis occurring in infants:

1. To remove the source of the poisons which form in the intestine.

2. To prevent the pathogenic germs in the intestinal tract from finding a favorable culture medium.

3. To restore to the body the water it has lost.

He states that all the foregoing conditions can best be met by the withdrawal of all food and giving sterile water alone. When there is much tendency to vomit the water should be given cold; if there be algidity, hot water should be used, in either case giving small quantities at a time—a dessertspoonful or a tablespoonful every fifteen or twenty minutes. For infants five or six months old the total quantity should not exceed one and a half pints in the twenty-four hours. This treatment must not continue longer than twelve to fifteen hours, for a young infant, if any improvement is shown; for older children it may be continued twice that long. Gastric lavage is indicated when there is persistent vomiting, and if thrush is present a mild alkali may be added to the lavage water. The writer relies entirely on small and repeated doses of calomel for intestinal antisepsis. Castor oil may be used if the stomach is not too irritable.

Colonic flushings are sometimes valuable, using mucilaginous solutions or the normal saline solutions, never using boric acid on account of its toxic effects on infants. Warm cataplasms should be applied to relieve the tympanites.

Where there is tendency to collapse hypodermoclysis of salt solutions should be given.

Warm baths are of value in reducing the hyperpyrexia. The return to food must be gradual, using diluted milk, buttermilk or koumyss with the addition of flour.

Treatment of Stye.

According to an abstract in *Med. Record* the lash should be removed from the center of the inflammatory area. The swelling should be carefully touched with tincture of iodin or pure carbolic acid. When pus is present it should be released by a small incision. The pain will be relieved by warm fomentations. A weak mercurial ointment will generally cause the disappearance of the remaining thickening of tissue. The diet should be regulated when there is any constitutional disturbance.

To Relieve the Cough in Pneumonia.

The following combinations are recommended by Text-Book of Applied Ther. in the treatment of the cough in pneumonia:

℞.	Codeinæ	gr. i	|06
	Quininæ sulph.		
	Pulv. camphoræ, āā	gr. xvi	1|06

M.. Ft. cap. No. viii. Sig.: One every three hours; or:

℞.	Ammon. carb.	3i	4 |
	Syr. pulveris doveri	3iv	15 |
	Syr. pruni virg.	3iss	45 |

M. Sig.: One teaspoonful every two or three hours.

Lichen Pilaris.

The following combinations have been recommended by *N. Y. Med. Jour.* in the treatment of lichen pilaris:

℞.	Sulphuris precip.		|
	Fuller's earth		|
	Venetian talci, āā	gr. lxxv	5 |

M. Ft. chartula. Sig.: Apply as required.

The following have been successfully used by Saalfelt:

℞.	Sulphuris precip.	3iiiss	14 |
	Saponis mollis		|
	Adipis, āā	3i	30 |
	Venetian talci	3iv	15 |

M. Sig.: Apply locally; or:

℞.	Saponis mollis	3iss	45 |
	Naphthol	3iiiss	14 |
	Cretæ prep.	3iiss	10 |
	Lanolini		|
	Adipis, āā	3iss	45 |

M. Sig.: To be used at night.

Brocq recommends the following:

℞.	Amyli glyceriti (neutral)	3iiiss	105 |
	Acidi tartarici	gr. lxxv	5 |

M. Ft. lotio. Sig.: Apply locally. For the immediate treatment of these cases Hyde recommends the hot bath with soap followed by inunctions of lanolin pomades, or the fats or oils. In congenital types cod-liver oil should be given internally.

Sweating of the Feet.

The following combinations are recommended by *Merck's Archives* in excessive perspiration of the feet:

℞.	Acidi salicylici	gr. xv	1 |
	Tannoformi	3iss	6 |
	Pulv. orris	3i	4 |
	Pulv. talci	3iii	12 |

M. Ft. pulvis. Sig.: Apply locally; or:

℞.	Formaldehyde	3iv	15 |
	Petrolati	3ii	8 |
	Lanolini	3iv	15 |

M. Ft. unguentum. Sig.: Apply freely at night; or:

℞.	Pulv. acidi borici	3i	4 |
	Pulv. amyli	3iii	12 |
	Tannoformi	3ii	8 |
	Olei caryoph.	gtt. i	|06
	Olei lavendulæ	gtt. iii	|20

M. Sig.: Use as a dusting powder.

In axillary bromidrosis the following is recommended:

℞.	Creolini	3i	4 |
	Ext. violet	3iv	15 |
	Alcoholis deod.	3iii	90 |

M. Sig.: Wash the armpits with warm water followed by an application of the lotion.

Uranium Nitrate in Diabetes.

There is no disorder of the system in which empyricism has assumed a more important place in therapeutics than in the treatment of diabetes mellitus. W. R. Jones, in *Virginia Semi-Monthly*, states that he derived splendid results from the use of uranium nitrate in the treatment of this disorder of metabolism. In every case in which this preparation has

been used by the author great improvement has resulted. It should be given in doses of gr. 1/6 (.01) to gr. ½ (.03) four times a day, administered in water, alcohol or glycerin. The salts of uranium, while not luminous, are strongly fluorescent, which, according to the writer, lends interest because of the discussion of radium at the present time. But whether the fluorescent property in any way affects metabolism can not be stated. He refers to the action of uranium on the skin producing a fine desquamation of the superficial layers of the epidermis somewhat similar to the effect of the *x*-ray. The degree, however, is very moderate and gradual. The general nutrition and activity of the skin is increased as well as the diaphoretic action, so that it is recommended for its beneficial effects on metabolism.

It is a yellowish-green, crystalline solid, soluble in water, alcohol, ether and glycerin. Some authors give it in 1 to 2 gr. (.06-.12) doses.

[The value of this preparation in diabetes because of its amylolytic and proteolytic action has been discussed by Dr. Samuel West. He employed it in the treatment of diabetes. It relieved the subjective symptoms and reduced the amount of sugar.]

Arsenic is a well-tried remedy in the treatment of diabetes and experiments have proved its value in reducing the formation of glycogen. The bromid of arsenic may be given made up as follows after the formula of Clemens:

℞ Potassii carb.
Acidi arsenosi ..... gr. vi | 40
Aquæ destil. ..... ℥i 30 |
M. Boil until dissolved and when cooled add:
Aquam q. s. ad ..... ℥iss 45 |
Bromum ..... gr. xii | 75
M. Sig.: One to five drops once or twice daily.

The following formulæ are often of value in reducing the quantity of sugar in the urine:

℞ Lithii carb. ..... ℥i 4 |
Sodii arsenatis ..... gr. i | 06
Ext. cascaræ ..... gr. xv 1 |
M. Ft. capsulæ No. xxx. Sig.: One after each meal.

Uranium nitrate may be prescribed in solution as follows:

℞ Uranii nitratis ..... gr. xv-xxx 1-2 |
Syrupi simplicis ..... ℥i 30 |
Aquæ folniculi ..... ℥iii 90 |
M. Sig.: One teaspoonful after each meal three times a day.

Codein is another preparation which is used as much, perhaps, in the treatment of diabetes as any other drug. This may be of service not only because it favorably influences the sugar elimination, but it also alleviates, to some extent, the pains which so frequently accompany this condition. It may be given as follows:

℞ Codeinæ sulph. ..... gr. viiss-xv | 50-1.
Syr. simplicis ..... ℥ss 15 |
Aq. aurantii q. s. ad. ..... ℥ii 60 |
M. Sig.: One teaspoonful three times a day.

Medicolegal.

SOME LEGISLATION OF THE YEAR 1903.

Idaho—Physicians to Report and Quarantine.—Section 1152 of the political code of Idaho as set forth in the revised statutes is amended by an act on pages 364 and 365 of the Idaho Session Laws of 1903 so as to read: It is the duty of every practicing physician to report promptly to the county physician of the county in which he resides, all or any dangerous disease of an infectious or contagious nature under treatment by him, and he is also hereby empowered and required to at once establish a strict quarantine against such person or premises by such means as shall seem to him to be sufficient, subject to revision by the county board of health, and said board must at once take the necessary precaution to prevent the spread of such dangerous or infectious disease, and any person violating the provisions of this act, or the regulations of said attending physician, or of the county board of health, is guilty of a misdemeanor.

Indiana—Creation of Anatomical Board.—Chapter XXXI of the Acts of Indiana of 1903 provides for the creation of a board for the control and distribution of the unclaimed bodies of persons dying in public institutions of, or charitable institutions aided by, the state, and which would otherwise be required to be buried at public expense or at the expense of such public institutions. The board is to be known as the state anatomical board and is to consist of the president of the State Board of Health, ex-officio, who shall act as the chairman, and one representative from each of the incorporated medical and dental schools of the state actually engaged in teaching, to be selected by and from the faculty thereof. Exceptions are made as to the bodies of persons dying with smallpox, diphtheria or scarlet fever, and to those of travelers dying suddenly, except those belonging to the class commonly known as tramps. The board or its agent may receive the bodies and shall distribute such as are received among such schools and physicians entitled thereto as request in writing to receive the same, preference being given to the incorporated schools. Each college shall receive annually, as nearly as may be practicable, such proportion of the entire number of bodies distributed as the number of bona fide students enrolled and in regular attendance at such school shall bear to the total number of bona fide students at all such colleges. All bodies shall be delivered in regular order so as to maintain an equitable allotment; and bodies assigned to any school in regular order and refused by it without sufficient cause shall be charged against its quota. No school or physician shall receive any body without first giving to the state a bond for $1,000, conditioned that all such bodies received shall be used only for the promotion of the science and art of medicine and of dentistry, and that the record containing descriptions of deceased bodies shall be preserved from loss. Nothing in this act shall be construed to prevent any duly incorporated medical or dental college, or any duly licensed practitioner from acquiring, by gift or otherwise, from persons having lawful authority to dispose of the same, the dead body of any human being for the purpose of postmortem examinations, dissection or other scientific use. But desecrating graves, trafficking in bodies referred to herein or in bodies known to have been unlawfully taken is made a felony, punishable by imprisonment for not less than three nor more than ten years.

Indiana—To Restrict Dangerous Communicable Diseases.—Chapter LXXXIII of the Acts of Indiana of 1903 provides that any physician called on to attend a sick person and who finds the cause of such sickness to be of a contagious or infectious character, or if the disease is ordered to be reported in the rules of the State Board of Health, such physician shall immediately report the facts to the secretary of the board of health having jurisdiction. Whenever any person knows, or has reason to believe, that any member of his (or her) family or household (boarder, roomer or visitor) has any communicable disease listed in the rules of the State Board of Health, he shall immediately, if no physician is in attendance, give notice to the local health officer. The health officer being notified in any way of the existence of any of said diseases shall immediately quarantine the infected premises so as effectually to isolate the case or cases and the family, if necessary, in such manner and for such time as may be necessary to prevent transmission of the disease; and, whenever a house or room is placed in quarantine, a placard shall be posted in a conspicuous position, giving the name of the disease in letters not less than two inches long, and also containing the following order: "All persons are forbidden to enter or leave these premises without special permit from the health officer having jurisdiction, and all persons are forbidden to remove or mutilate this card, or to in any way interfere with this quarantine without orders from said health officer." When visiting persons afflicted with such infectious disease, all physicians and health officers shall take precautions as directed in said rules. Other provisions make it the duty of the health officer to investigate, etc., whenever he knows or suspects or is informed

of the existence of a communicable disease, dangerous to the public health, and to disinfect the premises, etc., after the recovery or death of infected persons. After examination and determination by two physicians in good standing and practice that a person is sick with a contagious, infectious or pestilential disease, the state or local board of health may cause such person to be removed to a proper place for care, and may cause to be removed or destroyed articles infected or likely to communicate disease, when in their opinion the safety of the public health requires it. Children infected with, or having been exposed to any communicable disease shall not attend any school, or appear in public in any way, and all school teachers shall exclude all such children unless a written permit to attend is given by the health officer. In all cases of death from cholera, bubonic plague, leprosy, typhus fever, yellow fever, smallpox, diphtheria, membranous croup, scarlet fever, and cerebrospinal meningitis, the funeral shall be strictly private, and the burial shall be made within twenty-four hours after death. No public or church funeral shall be held or any person permitted to enter the house containing the remains, except the undertaker and his assistants, unless by permission of the health officer, and buried remains shall not be disinterred or removed without permission from the State Board of Health. All trolley, steam or electric cars or other public conveyances which are known, or which may reasonably be supposed to contain the infection of any disease, shall, on order of the health officer of that jurisdiction, be disinfected according to the rules of the State Board of Health, and the cost of disinfection shall be paid by the owner of said cars or conveyance: provided, that any and all inspections and fumigations of such cars be at such times and places as not to interfere with the general traffic of the road. If at any time any city, town or region is under quarantine, all trolley, electric and steam railroad companies through any such quarantined city, town or region, shall obey the quarantine orders of the State Board of Health, which are issued for the purpose of preventing the spread of infection.

Current Medical Literature.

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

American Medicine, Philadelphia.

October 17.

1 *One Year's Work in Appendicitis. John B. Deaver.
2 *On the Influence of Potassium Sodium Tartrate on the Circulation. Felix Kleeberg.
3 *The Interrelations of Diabetes and Other Constitutional States. George F. Butler.
4 *Cardiac Complications of Influenza. E. G. Wood.
5 *Special Aids to the Early Recognition of Pulmonary Tuberculosis. W. L. Dunn.
6 *Antistreptococcic Serum in the Treatment of Inflammatory Rheumatism and Other Diseases, with Report of Cases. G. H. Sherman.
7 Relation of the Medical Profession to Public Education. L. K. Baker.

1.—See Society Proceedings, this issue.

2. **Potassium Sodium Tartrate.**—This paper by Kleeberg gives the results of experimental research on the action and circulation of potassium sodium tartrate. The apparatus employed was the kymograph of Ludwig. Dogs were used for the experiments, in each case the animal receiving an injection of ¼ grain of morphin sulphate half to three-quarters of an hour before the beginning of the administration of ether. The cannula was invariably introduced into the carotid artery and the salt injected into one of the crural veins. The results are summarized as follows:

1. Potassium sodium tartrate when introduced intravenously in small amounts (up to 30.0 mg. per kilogram of dog) causes a fall in blood pressure and an irregularity in the rhythm of the heart's action. This may be accompanied by a primary slowing of the heart's beat, but the dominant action is to cause an increase in the rate of pulsation. The fall in pressure occurs even though the quantity of salt injected contains less than 3 mg. of potassium per kilogram of dog. If the amount introduced is larger and yet insufficient to cause complete paralysis of the heart, the fall in blood pressure is accompanied by a slowing of the heart. If the salt is introduced in comparatively large quantities, the animal quickly expires, owing to paralysis of the heart, respirations continuing for some moments after the heart has been arrested in diastole.

2. Neutral sodium tartrate when introduced intravenously in moderate amounts (about 50 mg. per kilogram) stimulates the heart, causing a rise in blood pressure, with a slight increase in heart rate.

3. The depressing factor is the potassium ion, and the sodium and tartaric acid ions are without influence in causing the depression.

3. **Diabetes.**—The predominant symptom of diabetes, glycosuria, may, Butler says, be the expression of many other diseases; sometimes it is only the result of an excess of carbohydrates. He enumerates a number of conditions in which glycosuria may occur, such as neuroses, insanity, autotoxic types of gout and mental disorder. He reviews the various neurotic manifestations which may attend the diabetes and the motor and sensory lesions in trophic disorders. Among the former are fatigue, lassitude, monoplegias, imperfect coordination, vertigo, etc. The most serious symptom is coma. There are included under this title many conditions varying from mental depression through apathy to stuporous states. In nearly all, the mental features and the concomitants of coma center, like all depressional mental states from acidosis, around the medulla oblongata. Their starting point is central not local. The condition of the arteries also is a factor in the etiology of glycosuria. Hereditary defect may show itself at the periods of stress, the change from infancy to childhood, puberty, adolescence, the climacteric and the period of senility, when the system is undergoing evolution or involution.

4. **Influenza.**—Wood notices the various organic and functional disorders of the heart attending influenza, and says in conclusion that study and observation force him to believe that influenza is a potent and not uncommon factor in the production of serious cardiac disease, and that there are frequently degenerative changes in the heart wall. In weakened subjects or elderly persons these changes may lead to grave symptoms. In view of the dangers of cardiac complications, the routine treatment of the disease with drugs like phenacetin, acetanilid, etc., can not be too strongly condemned, certainly not in patients past middle life.

5. **Tuberculosis.**—Dunn holds that the value of percussion or auscultation findings and of symptoms is dependent on the recognition of the limitation of their significance. The temperature is a guide only with frequent regular observations, and an auscultation chart made while listening to the sounds is an essential aid to accuracy of both observation and record. Negative sputum findings are never sufficient ground for negative diagnosis, and blood examinations aid only in the incipiency of the disease except in excluding the conditions in which the blood findings are characteristic. The significance and reliability of agglutination are not yet fully established. The tuberculin test is a safe, reliable, practical and justifiable diagnostic measure where its use is indicated; that is, in suspected early cases where other means of diagnosis have failed. When a positive diagnosis can be made without its use it should be condemned as a meddlesome procedure. He notices, however, in regard to the use of tuberculin one peculiar reaction he has observed three times: a fall of temperature to subnormal, a feeling of general weariness and depression, aching not marked or absent and local reaction more or less marked. He can not explain the phenomenon. He did not care to give a second larger dose just to see whether a rise of temperature could be produced, but does not believe that these cases should be confused with the unfortunate case reported by Heron at the British Congress on Tuberculosis.

6. **Antistreptococcic Serum in Rheumatism.**—A number of cases are reported by Sherman, showing the therapeutic value of antistreptococcic serum, 2 of erysipelas, 1 of miscarriage and 9 cases of rheumatism. In all his rheumatic cases there was a typical clinical history of inflammatory rheumatism with early evidences of more than usual severity in certain ones. All the patients had good digestion. None developed heart complications, and while the serum treatment was used no other treatment was resorted to. The results varied from marked improvement after the first or second dose to complete recovery in a short time. The local effects of the injections were not serious. He thinks that antistreptococcic serum

might also benefit muscular, sciatic and chronic articular rheumatism. At least a trial would do no harm and might lead to good results.

Medical News, New York.

October 17.

8 *Bronchiectasis in the Tuberculous; an Unusual Case Reported. S. Edwin Solly.
9 *Early Recognition of Impending Obstetric Accidents. Joseph B. De Lee.
10 Thiocol in the Treatment of Croupous Pneumonia. E. Fletcher Ingals.
11 Pathology and Prophylactic Treatment of Puerperal Sepsis. J. Clifton Edgar.
12 The Development of Our Knowledge of Puerperal Infection. Brooks H. Wells.
13 *Sublamine in the Treatment of Parasitic Scalp Diseases. William S. Gotthell.
14 *The Importance of the Surgical Treatment of Chronic Middle Ear Suppuration. Edward B. Dench.

8. **Bronchiectasis in Tuberculosis.**—Hoffmann's suggestion that bronchiectasis can not occur as a complication of tuberculosis is commented on by Solly, who reports a case which in its way is exceptional. He has found no record of a similar one. The patient was a woman subject to frequent attacks of bronchitis with periods in which there was a great deal of spasmodic coughing without expectoration, depression of health, but no fever and then a continuous fever, not intermittent, cough diminished, still no expectoration, emaciation, general depression, gastro-intestinal indigestion and no relief of the fever from treatment. Then a rapid increase in the temperature with bacilli first appearing. With the administration of iodid of potassium, which seemed to cause an absorption of lymph and the free escape of tuberculous matter, there remained an ordinary mild hectic fever with free expectoration and moderate cough, with occasional exacerbations of the high, continued fever which existed before, again relieved by the iodids. Finally, a period of six weeks of almost steady improvement with free but slightly diminishing cough and expectoration. Locally there was an old inactive tuberculous process at the right apex and solidification around the root of the right lung with slight incomplete atelectasis of the right lower lobe. Following the attack these two conditions were diminished with some return of activity at the extreme right apex. Hoffmann admits that small bronchiectatic areas are not infrequent in cases where there have been circumscribed processes in the apices and a tendency to recovery by subsequent fibrosis. In this latter category Solly places his case.

9. **Obstetric Accidents.**—De Lee holds that the pregnant woman is neglected in general practice. Patients are not examined to ascertain the size of the pelvis and to see if the heart, lungs, kidneys and liver are normal or if the pregnancy is normal, and he claims that by a moderate amount of intelligent supervision nearly all obstetric accidents might be prevented, or at least mitigated. Careful attention to the study of the patient and watching for symptoms of deficient excretion or toxemia would have much effect in obviating the occurrence of eclampsia. Family and personal histories should be carefully studied, both as to this and hemorrhages. As regards placenta previa, he says, if the woman has endometritis and if it has caused some puerperal anomaly before, look out for placenta prævia. If there is even the slightest show of blood after the fifth month keep it in mind. He also advises careful examination to ascertain the presentation before labor, and to study the possibilities that may lead to puerperal infection. Lastly, he mentions the care of the child.

13. **Sublamine.**—Gottheil has used this remedy in an epidemic of ringworm that occurred in a large orphan asylum, largely due to overcrowding. Other remedies, creosote, formalin, croton oil, mercury bichlorid, iodin, etc., had been employed. About 100 cases were treated with sublamin and, aside from a certain number of chronic and probably incurable ones, they all did well. Its action was more rapid than bichlorid, as might be expected, as since it has equal bactericidal with greater penetrative power and can be employed in stronger solutions. There was no doubt that it was more effective than all the other remedies employed and less irritating. Bacteriologic examination revealed the fact that a parasite indistinguishable from that of ringworm could be obtained from apparently healthy scalps. It was possibly a less virulent type, or the usual form kept in depressed growth by prophylactic measures. They finally came to trust in macroscopic evidences for cure, leaving aside the bacteriologic tests.

14. **Middle Ear Suppurations.**—Dench's article goes at length into the treatment, etc. He recapitulates as follows:

In all cases of persistent and profuse aural discharge the radical operation is the operation of election. In cases of recurrent aural discharge, associated with lesions of the upper air tract, this tract should first be put in a normal condition.

In case of persistent but slight discharge from the ear, the operator may advise the removal of the carious ossicles, together with thorough curettement of the middle ear through the external auditory meatus. It should always be explained to the patient, however, that this operation is a tentative one, and that the more radical procedure may be necessary later.

Medical Record, New York.

October 17.

15 *Radium; with a Preliminary Note on Radium Rays in the Treatment of Cancer. Margaret A. Cleaves.
16 *Stricture of the Male Urethra. Henry G. Spooner.
17 *The Need of Organized Effort in the Prevention of the Spread of Tuberculosis. F M. Pottenger.
18 Extensive Brain Loss without Impairment of Intellectual Faculties. Walter Keate.
19 Eczema Cured by Measles. G. W. Squires.

15.—See abstract in THE JOURNAL of October 17, p. 879.

16. **Urethral Stricture.**—Spooner, in his article on urethral stricture, gives its definition, anatomy, symptoms and course, with illustrations explaining the types.

17. **Tuberculosis.**—Pottenger insists on the importance of educating the public as to the methods of checking tuberculosis. He says its communicability must be impressed on the minds of the people, but these facts must not be exaggerated. There is no danger in associating with tuberculous patients if they are careful and follow the necessary precautions. As regards notification, he thinks it works in favor of the afflicted instead of against him. It would not be for public use, but simply for the information of the health officer.

Boston Medical and Surgical Journal.

October 15.

20 *Parasyphilitic Affections, or Remote Effects of Syphilis. Abner Post.
21 *Some Observations on Blood Pressure in the Insane. William R. Dunton, Jr.
22 *The Formation of Loose Cartilages in the Knee Joint. E. A. Codman.

20. **Parasyphilitic Affections.**—This paper, the author states, is practically a condensation of Fournier's book with comments and quotations from other sources. He reviews the various post-syphilitic conditions.

21. **Blood Pressure in the Insane.**—Dunton has experimented with the use of the Riva-Rocci manometer on a considerable number of insane, and concludes:

1. The findings of other writers that (*a*) the blood pressure is increased in depressive states and decreased in excited states, and (*b*) that the motor condition has a greater influence on the blood pressure than does the mental condition, have been confirmed.
2. A moist skin has no especial influence on the blood pressure, although active perspiration may.
3. There was no constant daily variation, as has been noted by Schaeffer and others.

I feel that further conclusions are not justified by the cases presented here and others which are in a too incomplete state to justify publication. This paper will have fulfilled its mission if others are stimulated to observe blood pressure.

Too much importance should not be ascribed to this symptom. Its accurate observation has its value, and will probably have a greater value later when we have a better knowledge of how it is influenced by various bodily conditions. The general clinicians are adding to this, and we should do our part by observing how it is influenced in mental affections.

22. **Loose Cartilages.**—Codman has skiagraphically investigated the etiology and formation of loose cartilages ("joint mice") in the knee joint, which he says must comprise two injuries: one to depress the cartilage and one to free it. He has observed three stages and illustrates them by skiagrams, and has produced the first stage experimentally on the cadaver. The practical surgical point to be learned from the studies he has made is that in operating the articular surface of the internal condyle should be inspected. Torn or displaced semilunars do not show by the *x*-ray.

New York Medical Journal.

October 17.

23 *Some Aspects of Genitourinary Disease, from a General Practitioner's Point of View. William H. Thomson.

24 *The Value of Albuminuria in Differentiating Pyelitis from Cystitis. Thomas R. Brown.
25 On Determining the Specific Gravity of Small Volumes of Urine; with a Preliminary Note on a Special Hydrometer (Urino-pyknometer) Designed to Work with a Few Cubic Centimeters of Fluid. G. A. De Santos Saxe.
26 Left-Sided Appendicitis. Edmund W. Holmes.
27 *The Treatment of Convergent Strabismus. William G. Craig.
28 *Differences in the Management of Appendicitis and of Salpingitis. George E. Shoemaker.
29 Treatment of Delirium Tremens. (Concluded.) Dudley Fulton and others.

23. **Genito-urinary Diseases.**—The points made by Thompson in this article are especially the high tension pulse of nephritis, which he considers due to an agent similar to adrenalin in the blood, causing kidney shrinkage and diminished urea excretion. Aconite he finds the best vasodilator and restorer of the urea output. He remarks also that in urine examinations we are apt to give our attention too exclusively to discovering what ought not to be found in it. There are many cases that suffer from too little elimination of urea, due to gastro-intestinal disorders, and there is a close relationship between the alimentary canal and urea elimination by the kidneys. The tension of the pulse in these cases of functional renal inefficiency is low instead of high. The patients feel worse in the morning and better in the evening, as if there were some nocturnally generated poison in the blood. In these cases he would give a biweekly dose of mercury alternated with compound licorice powder and the steady administration of intestinal antiseptics, such as sodium or ammonium benzoate or capsules of salol with castor oil. He also alludes to certain emergencies that may occur, such as septic infection of the kidneys in the course of chronic nephritis, and in conclusion describes a perineal pad which he has found beneficial in cases of chronic spermatorrhea.

24. **Pyelitis.**—In the nine cases reported by Brown the demonstration of a considerable quantity of albumin in the urine was of the greatest possible value in making a diagnosis of pyelitis. In a number of these it was the first thing to call attention to infection of the kidneys. He thinks that in any case in which in association with pyuria there is a considerable albuminuria, there is a great probability, if not a certainty, that an infection of the kidney is present except in those cases where the albumin is due to a high grade of hematuria or to nephritis, in which case the presence of casts will demonstrate the cause of the albuminuria.

27. **Convergent Strabismus.**—Craig dwells on the importance of early and systematic efforts in the direction of improving the eye in cases of convergent strabismus and outlines the different procedures. In conclusion he calls attention to the following points which summarize his ideas on the subject:

1. The earlier the child is seen, the better the prospect for a cure.
2. The vision of squinting eyes can, in a majority of cases, be improved and some function restored if treatment is begun early.
3. A small percentage of cases of convergent squint can be cured by mydriatics, glasses and proper exercises alone, without operation.
4. The correction by non-operative methods is much to be preferred, as the motility of the eye is more perfect and the deformity produced by sinking of the caruncle is avoided.
5. Operative procedures should be employed in those cases in which non-operative treatment, after a thorough trial, has failed, and in those cases in adults in which we operate for the cosmetic effect.

28.—See Society Proceedings, this issue.

St. Louis Medical Review.

October 10 and 17.

30 Anomalies and Monstrosities, with Report of a Case. J. N. Nelms.
31 *The Value of Ophthalmic Examinations in the Differential Diagnosis Between Typhoid Fever and Acute Miliary Tuberculosis. Clarence Loeb.

31. **Tuberculosis.**—Loeb describes a case, diagnosed as typhoid, in regard to which ophthalmologists differed as to the eye appearances. He diagnosed them as tubercles of the choroid. The autopsy showed a disseminated miliary sclerosis and tubercles were obtained from the tumors. He calls attention to the value of the ophthalmic findings in such cases.

Cincinnati Lancet-Clinic.

October 17.

32 On the Histo-pathologic Alterations of the Lymph and Blood-vessels in Syphilis. A. Ravogli.
33 Surgery of the Prostate, Pancreas, Diaphragm, Spleen and Thyroid. (Continued.) B. Merrill Ricketts.

University of Pennsylvania Medical Bulletin, Philadelphia.

September.

34 *Report of a Case of Decapsulation of the Kidney for Chronic Parenchymatous Nephritis. James Tyson and Charles H. Frazier.
35 A Clinical Chart, with Some Remarks on the Relation of Applied Anatomy to Physical Diagnosis and a Brief Anatomic Description. Albert P. Francine.
36 A Case of Femoral Thrombosis in Chronic Dysentery. Thomas S. Githens.
37 *The Effects of Aspidospermine on the Respiration and Circulation. Horatio C. Wood, Jr., and Daniel M. Hoyt.
38 Some Notes on Artificial Neurotoxic Serum. V. E. Henderson.

34. **Kidney Decapsulation.**—Tyson and Frazier report a case and comment on the procedure. (See Society Proceedings, this issue.)

37. **Aspidospermin.**—This product of the well-known quebracho blanco drug has been experimented on by Wood and Hoyt, who find that it leads to increase in the amount of air moved in the lungs. This seems to be independent of any increased muscular activity or changes in the blood, and is probably due to stimulation of the respiratory center. Further researches, however, on the action of the drug are necessary to determine its precise value in practical medicine.

New York State Journal of Medicine, New York.

October.

39 Foreign Body in a Bronchial Tube; Recovery. Thomas A. McGoldrick.
40 *Some Peculiarities of the Pulse in Typhoid Fever. J. N. Bassett.
41 Sporadic Cretinism, with Report of Three Cases. Hermon C. Gordinier.
42 *Spurious Gastric Symptoms. Allen A. Jones.
43 Ocular Incoördination and Cerebral Reflexes. F. Park Lewis.
44 Smallpox. William A. MacPherson.
45 Intestinal Obstructions. W. C. Phelps.
46 The Cure of Hernia. Gilbert D. Gregor.

40. **The Pulse in Typhoid.**—In two cases here reported with temperature records the course of the pulse was not in accordance with the temperature curve in typhoid fever. Bassett, therefore, concludes that the pulse does not follow the temperature or indicate the severity of the disease. Cases in which the pulse rate has not at any time in the course of the fever risen above 100 have proven fatal. The fact is, however, that slow pulse occurs with high temperature so seldom in typhoid fever that it is not mentioned by some authors.

42. **Spurious Gastric Diseases.**—The difficulty of always recognizing the nature of the apparently gastric symptoms is noticed by Jones, who remarks on the various causes of pain in the epigastrium, and the need in all cases of gastralgia of a differential diagnosis between the rather rare essential gastralgia and cholelithiasis. In the absence of symptoms and physical signs of gallstone colic the diagnosis is not always readily made. Vomiting is not a sure symptom of gastric disease. It may be due to cholecystitis, uremia or other causes. Appendicitis in its various phases and effects needs attention. In a good many cases local evidences are not so advanced that they are definite and easily determined. Reflex hyperchlorhydria may confuse the diagnosis. Pancreatic disease is another condition which, while relatively uncommon, may be confusing. Obscure tubercular peritonitis that causes no tumor may give rise to gastric symptoms. Heart lesions may also simulate gastralgia. He reports a case in which rupture of the heart was thus mistaken. Angina pectoris sometimes simulates gastralgia, and this should be borne in mind if gastralgia yields to nitroglycerin. Arteriosclerosis, arteriospasm and syphilis may also cause confusion, but the use of the iodids in the latter case will show the nature of the condition. There may also be true sclerosis of the arterioles of the stomach, causing ulceration, or diaphragmatic pleurisy may incite reflex pain in the gastric region, and only close study will determine the true nature. In his experience, he says, pain in the stomach is very rarely the result of pelvic disease, while vomiting is a common result. Disease of the pelvic organs is one of the causes of spurious gastric symptoms. We should be on the lookout for pelvic disease that may elude a superficial examination. Lastly, he mentions eyestrain as a cause of various stomach symptoms.

California State Journal of Medicine, San Francisco.

October.

47 Lupus Erythematosus. Alfred B. Grosse.
48 The San Francisco Quarantine Station. Hugh S. Cumming.
49 *A Few Illustrative Cases of Diphtheria. Fred G. Burrows.
50 *Abdominal Drainage. Stanley Stillman.

49. **Diphtheria.**—Burrows points out that the mortality and morbidity of diphtheria are greater in California than in other parts of the United States, nothwithstanding the fact that the climate of California ought to be less favorable to its extension than those of eastern parts of the country. He reports a number of cases and believes that if proper attention to the antitoxin treatment be given, the death rate and morbidity can be very decidedly lowered. He thinks that 99 per cent. of the cases can be saved in the California climate if properly taken care of and treated early with antitoxin.

50. **Abdominal Drainage.**—Stillman would limit drainage after intraperitoneal operation to cases where there is a single or multiple walled-off collection of pus or where necrotic tissue must be left behind or those where the intestine is seriously damaged and the suturing is faulty and likely to give way.

Albany Medical Annals.

October.

51 Acute Ulcerative Endocarditis. Samuel B. Ward.
52 *Varicella, with Report of an Unusual Epidemic. Spencer L. Dawes.
53 *The Surgical Treatment of Malignant and Non-Malignant Diseases of the Stomach. Albert Vander Veer.

52. **Varicella.**—Dawes reviews the symptomatology and etiology of varicella and discusses its relations with variola. He thinks the strongest argument for the duality of the diseases is the age question. Though cases of varicella do occur in adults, to all intents and purposes it is limited to the first fifteen years of life. During these years, if variola occurs it is severe while varicella is almost invariably mild. He remarks on the slight mention which this disorder receives in text-books, while other diseases which can not be more serious and are certainly less important in their etiologic relations are given much more consideration. Four cases are reported.

53. **Diseases of the Stomach.**—Vanderveer discusses the treatment of malignant and non-malignant diseases of the stomach, describing the operations, and concludes that gastro-enterostomy can be applied to all forms and conditions of pyloric stenosis and is preferable to resection of the stomach in many cases, having less mortality and the possibility of good results being fully as great. Next to this he believes that gastrectomy is the best operation, but its utility is very limited. In its performance great attention should be paid to the removal of the lymph glands, as much of the permanent success of the operation depends on this point.

Fort Wayne Medical Journal-Magazine.

September.

54 *Some Things to Be Remembered in Surgery. J. C. Fleming.

54. **Things To Be Remembered in Surgery.**—The special points emphasized by Fleming are the importance of hot moist dressing in cellulitis, the value of picric acid in burns of the second and third degrees, the bad policy of probing bullet wounds in general, the fact that gunshot wounds of the extremity and chest require simply watchful expectant treatment, while those of the abdomen require immediate laparotomy, and those of the brain require operative interference and removal of the bullet if possible.

Richmond Journal of Practice.

September.

55 Diet and Drugs in Nephritis. William S. Gordon.
56 *Methods to Hasten Epidermization, with Special Reference to Skin Grafting. Stuart McGuire.
57 Chyluria. M. D. Hoge, Jr.

56. **Skin Grafting.**—The various methods of treatment of raw surfaces in order to hasten epidermization are noted by McGuire, who speaks in favor of the use of oleaginous dressings which have fallen into unmerited disfavor. Dry dressings he does not favor, as he thinks their good effects are only temporary. He finds considerable benefit from the treatment of granulating wounds by the use of dressings that supply food directly to the cells. Such he finds furnished in Valentine's meat juice, diluted in three parts water, and applied on cotton as a moist dressing. It does good for a short time, but then loses its effects. When the pale granulations become pink and healthy it should be discontinued. Alterative dressings have their place as well as the protective. Most of his article is devoted to a description of the methods of skin grafting, and he especially notices his experience with the use of heterographs. He has had occasion to test whether the skin of the negro would lose its pigment on a white person, and has found in a colored man that white skin grafts retained their color. He says for obvious reasons this has deterred him from reversing the experiment and grafting negro skin on a white man. He has had good results with the use of pigskin grafts, showing clearly that pigskin will grow under these circumstances. Dr. William Flegenheimer has reported a case of successful pigskin grafting by Wolfe's method, and Dr. Browning of the University of Virginia has personally reported to him another.

Maryland Medical Journal, Baltimore.

October.

58 A Case of Filariasis Observed in Maryland. William F. Lockwood.
59 *The Care of the Insane. Frederick Peterson.
60 *A New Treatment for Wry-neck. Leonard K. Hirshberg.
61 Maryland's Need of a Mountain Sanatorium for Indigent Consumptives. Henry Barton Jacobs.

59. **Care of the Insane.**—Peterson describes the advance that has been made in the care of the insane in New York state, the thoroughness and perfections of the state care, improvement in administration, rise of scientific standards in the hospitals and the great increase in the comfort and care of the patients. These all have been brought about with a diminution of the expense of maintenance.

60. **Wry-Neck.**—In the treatment here described by Hirshberg he advises the use of the faradic current over the sterno-cleido-mastoid and trapezius of the healthy side. Three cases are reported.

Virginia Medical Semi-Monthly, Richmond.

October 9.

62 Relations of the Medical Profession and Public to Each Other; Responsibilities of One and Demands of the Other; Work and Achievements of the Profession, and Benefits and Blessings Received by the Public. William S. Christian.
63 *Treatment of Eclampsia. J. M. H. Rowland.
64 *The Salts of Uranium in Diabetes, with Some Remarks in Regard to Their Physiologic Action. William R. Jones.
65 Urinary Analysis in Chronic Bright's Disease. M. D. Hoge, Jr.
66 The Terminal Symptoms of Chronic Bright's Disease. William S. Gordon.

63. **Eclampsia.**—The idea of Rowland's paper is to impress on the reader that more care of the pregnant woman is desirable and possible and that the toxemia of pregnancy may easily be prevented, and even the severer toxemias of pregnancy need not in the vast majority of cases cause eclampsia if properly managed. That immediate forcible dilatation of the cervix and delivery in eclampsia is not always justifiable, though the early delivery of the child is desirable when it can be accomplished without serious injury to the mother. The use of chloroform and morphin has probably been overdone, and the use of chloral and normal saline solution, hot packs, nitroglycerin and veratrum viride has been neglected or these measures have been improperly used. Other things being equal, the constant, intelligent attention of the physician during the whole period of the attack will be successful in causing recovery in a very large percentage of cases.

64. **Diabetes.**—Jones recommends the use of uranium nitrate in diabetes. It has, he says, a powerful effect on metabolism, and the patient's general condition improves while under its administration. The tormenting thirst, extreme weakness, excessive urination and glycosuria are gradually relieved. Dr. E. J. Moseley reports a case of diabetic ulceration which rapidly healed under the internal use of the salt after resisting all other methods. In every case in which Jones has employed the drug he has seen great improvement. He reports a case of advanced diabetes mellitus in which uranium nitrate was given in a dose of one-fourth a grain three times a day,

with occasional intermissions of three days, for about two months. The patient began to improve from the first, and at the end of that period the restrictions on the diet were gradually removed with no return of the glycosuria, and eighteen months later the patient was apparently in perfect health.

Archives of Pediatrics, New York.

September.

67 *Infections of the Newborn. Samuel McC. Hamill and William R. Nicholson.
68 *Injuries and Infections of Newborn Children. Irving N. Snow.
69 *Disturbances of Respiration in the Newborn. W. Reynolds Wilson.

67. **Infections of the New-Born.**—The infections described are mostly hemorrhagic and congestive conditions terminating fatally. A number of cases are reported with autopsies and bacteriologic studies. The staphylococci were present in nearly all; in one there was a bacillus resembling the colon bacillus. Streptococci and other organisms were also present in some of the cases. These infections occur most frequently in the maternity hospitals, and Hamill and Nicholson are inclined to consider them largely due to careless nurses. The greater frequency of air infection is not supported by facts, for in nearly all the cases there was a mixed infection. The symptoms may include profound toxic conditions, emaciation, nervous phenomena, skin eruptions, icterus, fever or diarrhea, etc. As regards diagnosis, the authors remark that any elevation of temperature, notwithstanding the frequency of fever in early infancy, should arouse suspicion. In most cases which they have seen, enteritis has been an early symptom, and next in order, perhaps, the papulovesicular eruption on the skin of the neck, face, shoulders or forearms, hence, if one sees this combination of fever, green mucous stools, skin eruption and rapid emaciation, one is justified in considering the condition an infectious one. Several cases which they studied postmortem had been diagnosed inspiration pneumonia. Differentiation between blood infection and lung involvement on the basis of the symptoms and physical signs is sometimes not possible. The prognosis is bad. For prophylaxis they advise greater care in the handling of the cases by the nurse, especially the proper toilet of the mouth. Every nurse who has handled the bedding of a patient, treated fissured breasts, emptied a bed-pan or changed a napkin, should be most careful in preparing her hands before she does anything to the mouth of these infants. The recognition of fissure or any other pathologic condition should cause an immediate withdrawal of the infant from nursing. The practice of continuing suckling under these conditions should be condemned. A change of environment is sometimes successful in streptococcus infections, and Delestre has claimed good results from the withdrawal of small quantities of blood, 2 or 3 c.c. or more, following it with the injection of a little larger quantity of artificial serum. The authors question the possibility of getting sufficient blood by a single bleeding to have much effect, judging from their difficulty in securing blood for cultures. Medicinal treatment is that of the symptoms, supplemented by vigorous stimulation and good nourishment.

68. **Injuries and Infections of New-Born Children.**—Snow analyzes the death records of Buffalo and compares them with the European statistics of Eröss. He finds that the mortality in Buffalo is greater in the first week. It would appear that more children die there from the accidents of parturition and fewer from infections than in Europe. The occurrence of cerebral and meningeal hemorrhages, etc., is noted. The former may occur in small children that are easily born. The prognosis, of course, of intracranial hemorrhage is bad. Snow reviews a series of cases of diarrheal diseases in new-born children among well-to-do families with good hygienic surroundings, and while the mode of infection is obscure, he is convinced that the mother's milk was the cause in some cases. In one instance the child was probably infected in the parturient canal, possibly by swallowing infected amniotic fluid.

69. **Respiratory Disturbances in the New-Born.**—The first of these conditions which confronts the practitioner is asphyxia; the next congenital atelectasis. Cases have been reported where there has been respiratory failure apparently of bulbar origin. In opposition to these cases are those due to toxic influences or alimentary disturbances of which Wilson gives instances. Dyspnea may arise from congenital conditions, such as cardiac malformations. The dyspnea of pneumonia lacks the paroxysmal attacks, the breathing is frequently irregular and of the Cheyne-Stokes type. The fever and physical signs may be absent in weakly children so that a differential diagnosis between pneumonia and atelectasis is impossible. Congenital stenosis with dyspnea may occur, and dyspnea of the convulsive type arise from enlargement of the thymus gland. When signs of intrathoracic trouble are wanting, the symptoms may point to alimentary disturbance. In these cases dyspnea is not usually the primary manifestation; green stools, fever, anorexia, etc., are likely to precede the attack. Diaphragmatic hernia offers a complexity of symptoms in which dyspnea predominates, though it is rare and probably very seldom causes confusion in the diagnosis. Rapidity in respiration is commonly met with, either paroxysmal and transient or continuous. Dyspepsia and febrile conditions may be the underlying causes. It may be a symptom of the common pulmonary affections. The author reports a case in which respiratory disturbance was associated with gonorrheal ophthalmia, and the septic intoxication of the child was probably the result of a mixed infection. This blennorrhea in itself would hardly account for the condition. The source of infection was obstetric rather than congenital.

Illinois Medical Journal, Springfield.

October.

70 *What Shall We Do in Cases of Severe Spinal Injury. E. Mammen.
71 The Metric System. John A. Koch.
72 A Case of Continued Development of the Fetus in Utero, After Rupture of the Membranes and Escape of the Liquor Amnii. H. W. Chapman.
73 The Curette in Puerperal and Non-puerperal Cases. W. P. Davidson.
74 Lacunar Tonsilitis. James M. Brown.
75 *A Simple Method of Appendectomy. Emil Ries.
76 Surgical Mania or Insanity Following Surgical Operations. William H. Maley.
77 *The Diagnosis and Treatment of Obscure Syphilitic Lesions of the Eye. E. F. Snydacker.
78 Psychotherapeutics. E. A. Edlen.

70. **Spinal Injury.**—Mammen reports several cases of treatment of severe spinal injury, and formulates the following general principles as applicable to this class of injuries: 1. Where no fracture or dislocation has occurred, but a degree of paralysis exists, absolute and physiologic rest is of importance, 2. If fracture and dislocation occur, as in fractures elsewhere, there should be an attempt to restore the parts to their normal condition by manipulation, extension, and if need be, operation. 3. After injury or operation the spinal column should be held in position by a proper immobilizing apparatus, jacket, splint, and jury-mast, or combinations of these. Where pressure exists from depression of the arch or from hemorrhage, laminectomy should be resorted to as early as possible.

75.—This article has appeared elsewhere. See THE JOURNAL of July 18, ¶22, p. 205.

77. **Syphilitic Lesions.**—Snydacker divides syphilitic lesions into two classes: 1. Those due primarily to syphilitic poisoning amenable to specific treatment; 2, those secondary post-syphilitic changes which are not thus amenable. Primary ophthalmic atrophy must be reckoned with the latter as also choroidal changes, retinal lesions, etc., that fail to yield to mercury or iodin. Clinically all specific lesions of the eye are obscure. A history, examination, exclusion and therapeutic tests are requisite. In the treatment of eye lesions of the first class we employ antispecific remedies; in the latter we avoid such remedies, employing rather a tonic and strengthening form of treatment. He reports cases.

Journal of Cutaneous Diseases, New York.

September.

79 *Some Precancerous Affections of the Skin, More Particularly Precancerous Keratoses. M. B. Hartzell.
80 Recent Contributions to Our Knowledge of the Hysterical Neuroses of the Skin. Arthur Van Harlingen.
81 Recurrent, Progressive, Bullous Dermatitis in a Hysterical Subject. Charles J. White.

October.

82 *Dermatitis Venenata; a Supplemental List. James C. White.

83 A Case of Symmetrical Gangrene. Edward B. Bronson.
84 The Presence of Peculiar Calcified Bodies in Lupus-like Tissue. T. Caspar Gilchrist and W. Royal Stokes.
85 *A New Drug Eruption of the Iodoform Type. S. Politzer.
86 Two Peculiar Cases of Fragilitas Crinium. George T. Jackson.
87 Note on a Rapid Method of Diagnosis in Leprosy. Francis J. Shepherd.

79. **Precancerous Affections of the Skin.**—Among these Hartzell notices inflammations peculiar to workers in tar and paraffin, chimney sweeps' dermatites, which are known to undergo malignant change, and also lupus vulgaris, which in a small proportion of cases is followed by epithelioma. Other forms of cutaneous tuberculosis, such as the varicose type, may also thus terminate and erythematous lupus has been observed to thus change. Ulcerating lesions of tertiary syphilis in rare instances become the seat of cancer. New growths of the skin, warts and pigmented nevi show the greatest tendency to such change. Cicatrices arising from any cause; chronic leg ulcer, especially cicatrices from burns, various forms of circumscribed keratosis, such as cutaneous horns, callosities, the palmar and plantar lesions resulting from arsenical poisoning, and senile keratomata form an important group of precancerous affections. He calls attention to the fact that in a considerable proportion of cases marked hyperidrosis precedes the appearance of the keratosis. The most frequent and perhaps the most important form of precancerous keratosis, the one most deserving of the term, is the so-called senile seborrhea of the French authors, or the senile keratoma of Besnier, which is the better title. It occurs as pinhead to dime-sized, more or less elevated, friable and slightly greasy, or dry and hard, yellow brown or black crusts which are firmly adherent to the skin. When forcibly removed the underside of these crusts shows numerous small spines, which have filled the dilated mouths of the follicles, and the skin beneath is moist and red or frequently superficially ulcerated. There are usually no subjective sensations. It occurs most frequently in the forehead, upper parts of the cheeks, the nose, back of the hands and in those engaged in manual labor or exposed to the weather. In its course, the disease is variable. Many of the patches remain unchanged for years; a few are gradually transformed into superficial epitheliomatous ulcers which slowly enlarge, with all the characteristics of a papillomatous epithelioma. Notwithstanding its frequency and tendency to terminate in malignant disease, it is little noticed in works on dermatology. Almost the only adequate account is that given by Dubreuilh, presented at the International Congress of Dermatology in 1896. Within the past year or two Hartzell has studied a number of these cases and gives the pathologic findings with illustrations.

82. **Dermatitis Venenata.**—White offers in this article a supplementary list to that given in his work on dermatitis venenata in 1887. He mentions first the irritants generally recognized, among them certain new hair dyes such as chlorhydrate of paraphenylene-diamin and "aureole," containing metol, amidophenol-chlorhydrate and monoamidophenylamin. Several instances of dermatitis from these have been observed. He also refers to cases reported from phenyl-hydrazin-hydrochlorid, salol, orthoform, resorcin, pyoctanin, creolin, iodvasogen, kerosene and electricity. He remarks that while petroleum is not irritating, kerosene applied for parasites is capable of producing a fine papular dermatitis. He has also seen eruptions follow application of electricity. Dermatitis produced by the *x*-rays does not require mentioning. In his second class are irritants not generally recognized. He mentions "aurantia" (hexa-nitro-phenyl-amin) a dye used to stain leather yellow; green ebony, guiacum, hops, which belong to a dangerous family (the *Urticaceæ*), *Heracleum giganteum*, *Angelica archangelica*, hyacinth bulbs, *Cotoneaster microphylia*, an ornamental plant belong to the *Rosaceæ* family, *Humea elegans*, the ginkgo tree, etc. Of the suspected plants he mentions the trumpet vine and the woodbine, which are sometimes credited with being poisonous, but are probably confused with the *Rhus toxicodendron*. He also quotes from Dr. Chestnut of the Poisonous Plant Investigation Bureau, who mentions the common radish, the common dogwood, the commercial pawpaw, common dog fennel and the common field daisy as occasionally irritating to the skin; also several species of hypericum and buckwheat, and the laporteas, which are, however, confined to the tropics and only seen in hot-house cultivation.

85. **A New Drug Eruption.**—Politzer reports cases of dermatitis from the use of mesotan which has been considerably used as an anti-rheumatic by local application. He also mentions that some eruptions have followed the use of aspirin, but they were evidently due to idiosyncrasy and not, as in his case of mesotan dermatitis, the effect of the prolonged action of the drug.

Medicine, Detroit.

October.

88 *Notes on the Serum Therapy of Scarlet Fever. Heliodor Schiller.
89 *A Case of Typhoid Cholecystitis with Calculi, but without Any Evidence of Typhoid Fever. Jesse M. Burlew.
90 *The Relation of Appendicitis to Injury. Harold N. Moyer.
91 *A Statistical Study of the Postmortem Findings in 171 Cases of Lobar Pneumonia. Ellis K. Kerr.
92 The Sphygmomanometer. Richard L. Sutton.
93 Anatomy and Physiology of the Urethral Muscles, with Especial Reference to the Diagnosis and Treatment of Gonorrhea. F. Baumann.

88. **Scarlatina.**—The serum therapy of scarlet fever is favored by Schiller, who thinks all streptococci are closely related, and that any antistreptococcic serum ought to have some effect on scarlet fever cases. In his own experience here reported he was unable to get the Moser and Tavel serum, but obtained material made probably somewhat after the Marmorek method which he employed in two cases, both septic. A decided change was noted after the serum injection. The earlier treatment, consisting of the use of Credé's ointment, the care of the mouth, strychnin, dietetic and hydropathic measures, caused no improvement, but a change for the better was seen after the serum injections. In both the cases there was a relapse which he credits to renewed invasion of the system by the streptococci. Reaction from the serum was again prompt.

89. **Typhoid Cholecystitis.**—A case is reported by Burlew and he discusses the literature, tabulating cases which are notable as bearing on the relation of the typhoid bacillus to gallstone formation and as showing the length of time in which the bacillus may persist in the gall bladder after the primary attack of typhoid, producing at remote periods cholecystitis and cholelithiasis. The occurrence also of suppurative cholecystitis of typhoid origin, complicating direct attacks of typhoid fever, is possible. A typhoid cholecystitis may develop without the co-existence of a previous attack of typhoid.

90. **Appendicitis.**—Moyer raises the question as to the medicolegal bearings of traumatism and appendicitis, and quotes authorities. In the case he observed, appendicitis occurred the seventh day after a fall, to which it was attributed. He questions to some extent the probability of the appendiceal lesion being the result of so remote an injury.

91. **Pneumonia.**—From 782 consecutive autopsies in the Cook County Hospital and a discussion of the literature, Kerr summarizes as follows:

1. The maximum frequency of deaths from pneumonia is from 35 to 40 years, while of those due to all causes it is in the next decade. 2. Fatal cases are somewhat more frequent in males. 3. There is a preponderance of unilateral cases, of the right side over the left, and of the lower lobe over the upper lobe. Crossed pneumonia is rare. 4. A majority of the cases are in the stage of gray hepatization. 5. Edema of the lungs and bronchitis are common, while abscess and gangrene of the lungs are rare. 6. Acute parenchymatous changes occur in the parenchymatous organs with a marked frequency. 7. The serous membranes are involved in the following proportions:

Pleuritis	70 per cent.
Pericarditis	12 per cent.
Endocarditis	8 per cent.
Meningitis	6 per cent.
Peritonitis	5 per cent.
Arthritis	very rare.

8. Pericarditis occurred with pneumonia of the lower lobes in all but 2 cases, and of the right middle lobe in these 2 cases. In Steven's series it is found with the upper lobe alone in 4 cases. 9. The preponderance of vegetative endocarditis and the preference for the mitral valves differ from the usual experience. 10. The frequency of meningitis associated with endocarditis is noteworthy. 11. Jaundice does not seem to be accompanied by any uniform change in the liver. 12. The frequency of occurrence of pneumonia as a terminal infe tion is noteworthy. The presence of chronic pathologic lesions in a large number of cases is also remarkable. These findings are of importance from a standpoint of prognosis chiefly.

Colorado Medical Journal, Denver.

July.

94 A Practical Study of the Maxillary Antrum. A. R. Solenberger.
95 Hemorrhoids and Their Treatment. J. O. Roberts.

August.

96 The Prognosis of Those Diseases Incident to Military Service in the Philippines. George Richardson.
97 Opium Poisoning. J. W. Coleman.

September.

98 Intubation of the Larynx and Intubation Instruments. F. E. Waxham.
99 Surgery of the Prostate. W. W. Grant.
100 The Diagnosis of Cancer of the Stomach. A. E. Engzelius.

Canadian Journal of Medicine and Surgery, Toronto.

October.

101 The Medical Expert as a Witness. W. R. Riddell.
102 The Country Doctor. James S. Sprague.
103 *Some Clinical Indications for the Use of the Electric-light Bath. T. D. Crothers.
104 Gynecologic Surgical Clinic at the Metropolitan Hospital, New York. Augustin H. Goelet.

103.—This article has appeared elsewhere. See THE JOURNAL, vol. xl, ¶95, p. 404.

Kansas City Medical Index-Lancet.

October.

105 Drinking Water from a Hygienic and Sanitary Standpoint. Jean R. Moechel.
106 Psychic Force, a Therapeutic Power. Henry S. Munroe.
107 The Value of Laboratory Methods of Diagnosis. Herman E. Pearse.
108 The Management of Abortion. C. B. Harbin.
109 Cerebral Softening or Encephalomalacia. John Punton.

Medical and Surgical Monitor, Indianapolis, Ind.

September 15.

110 Spirality, Constrictions and Dilatations of the Ureter. Byron Robinson.
111 Etiology of Nephritis—*Bacillus Coli Communis* (?) J. W. Crismond.
112 Alumni Address, Alumni Association of Central College of Physicians and Surgeons. John T. Scott.

Canada Lancet, Toronto.

October.

113 The Surgery of To-day. Alex. Hugh Ferguson.
114 *The Lymph Circulation in Modern Medicine. H. A. McCallum.
115 Eye Strain and the Literary Life. George M. Gould.
116 The Inter-relation of Diabetes and Other Constitutional States. George F. Butler.
117 *The Size of the Pupil as an Aid to Diagnosis. J. T. Duncan.

114.—See abstract in THE JOURNAL of September 5, p. 626.

117.—Ibid., p. 627, also title 125 below.

Indiana Medical Journal, Indianapolis.

October.

118 *How to Close Wounds. Miles F. Porter.
119 Report of a Case of Intestinal Obstruction. J. T. Freeland.
120 Surgery a Specialty. C. B. Stemen.
121 Treatment of Chronic Rheumatism. William F. Bernart.

118.—This article appeared in THE JOURNAL of July 25, p. 219.

Merck's Archives, New York.

October.

122 The Proper Administration of Drugs. J. M. French.
123 Prophylaxis and Treatment of Phthisis Pulmonalis. Louis L. Wagner.
124 An Index of Diseases Alphabetically Arranged, with Their Modern Treatment. G. Bjorkman.

Canadian Practitioner and Review, Toronto.

October.

125 *The Size of the Pupil as an Aid to Diagnosis. J. T. Duncan.
126 The Country Doctor. James S. Sprague.
127 Sanatoria for Consumptives. E. J. Barrick.
128 Two Cases of Unusual Nervous Disease. W. B. Thistle.
129 *Some Business Aspects of Medical Practice. N. A. Powell.

125.—See abstract in THE JOURNAL of September 5, p. 627, also title 117 above.

129.—This article has appeared elsewhere. See THE JOURNAL of September 19, title 125, p. 750.

Nashville Journal of Medicine and Surgery.

August.

130 Annual Report of Cases, Brigg's Infirmary, Season Beginning Sept. 10, 1902: Ending Aug. 1, 1903. (To be continued.) Samuel S. Briggs.

Atlanta Journal-Record of Medicine.

October.

131 The Etiology and Pathologic Anatomy of Aneurism. W. Lowndes Peple.
132 Concerning the Symptomatology of Thoracic Aneurisms. Truman A. Parker.
133 Gelatin Treatment of Aneurism. Ennion C. Williams.
134 Double Mammary Abscess, with Report of Case. O. L. Holmes.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London.

October 10.

1 The Medical Curriculum. E. A. Schäfer.
2 *Discussion on Practical Experience Regarding the Most Satisfactory Methods of Performing Intra-abdominal Anastomosis. G. H. Makins, E. Stanmore Bishop and others.
3 *Discussion on the Treatment of Advanced Tuberculous Disease of the Knee Joint. G. A. Wright, W. F. Haslam and others.
4 *A New Route for Posterior Gastrojejunostomy. J. Basil Hall.
5 *One Danger of Gastroenterostomy. W. McAdam Eccles.
6 Two Cases of Ascites Secondary to Alcoholic Hepatitis Treated Successfully by Operation. Sinclair White.
7 Notes of a Case of Operative Treatment for Cirrhosis of the Liver. William Sheen.
8 *Separation of the Acetabular Epiphysis of the Femur. Henry Betham Robinson.
9 Ultimate Results in a Series of 88 Cases of Fracture of the Tibia and Fibula. (To be continued.) R. W. Murray.
10 On the Protective Effect Achieved by Antityphoid Inoculation as Exhibited in Two New Statistical Reports. A. E. Wright.

2. **Intra-abdominal Anastomosis.**—Makins' paper was abstracted in THE JOURNAL, Aug. 29, 1903, p. 571.

Dr. E. S. Bishop followed Makins. He says in summarizing his points:

The use of decalcified bone bobbins is advisable in operations for union in the gastric region and the upper part of the small intestine, mainly because they act as a protection during the early stages of union and because the intestinal contents in these segments are liquid and possess certain chemical and digestive properties, from which the line of union in these regions needs to be protected. The use of such appliances is doubtful in the lower small intestine and is absolutely contraindicated in the large, mainly because of the solid or semi-solid nature of their contents. . . . In choosing a mode of suture, that one is to be preferred which gives the most perfect security against leakage in consequence of its yielding to the peristaltic strain, exposes itself the least and so minimizes the irritation and consequent adhesion of surrounding peritoneal surfaces, by which later obstruction may be produced, and which removes the inevitable diaphragm formed by the necessary inturning of the bowel ends, so as to leave a smooth internal surface. The use of forceps, . . . or the preliminary crushing of the intestine . . . all of which are based on the idea of producing sphacelation of the inturned edges of the gut, are of very doubtful value, are associated with unnecessary risk of later perforation, and should not be preferred to simple suturing or to suture over some absorbable and protective appliance.

He advises a previous colotomy in removal of neoplasms, etc.

In further discussion Elsworth says he finds the Murphy button a satisfactory method; others say they have supplanted it almost entirely with suture. Mayo Robson thinks the Murphy button a dangerous appliance.

3.—This paper was abstracted in THE JOURNAL, Sept. 12, 1903, p. 678.

4. **Posterior Gastrojejunostomy.**—Hall mentions his method, which he calls the supracolic operation, the posterior wall of the stomach being reached by an opening made in the gastrocolic omentum instead of the transverse mesocolon. The gastrocolic omentum is a thin, practically bloodless membrane, and there is, therefore, no chance of interference with the vascular supply; there is no risk of contraction of the opening causing pressure on the loop of the jejunum and hence no necessity for suturing the margins of the aperture to the stomach wall as recommended in the case of mesocolon:

An incision of 3 in. at once exposes the gastrocolic omentum. The loop of the jejunum is hooked up with the index finger and clamped. A fold of the posterior wall of the stomach is drawn through the aperture in the gastro-colic omentum, and, after shutting off the peritoneal cavity with gauze, the anastomosis is completed outside the abdomen. In making the anastomosis I use a double row of continuous suture, an inner one of catgut to unite the cut edges and including all the layers, so as to control any bleeding points, and an outer serous suture of silk. I have given up all mechanical appliances, because I find I can do better without them. In this, as in the old anterior operation, the loop of the jejunum lies in front of the colon. I do not believe that this is any disadvantage; indeed, I am strongly of the opinion that the objection raised against this arrangement is entirely a false one. I have had the opportunity of examining two subjects postmortem on whom gastrojejunostomy had been performed for malignant disease.

He tabulates a number of cases and reports a trial of this method, which he thinks combines the use of both anterior and posterior operations and avoids their disadvantages.

5. **Gastro-enterostomy.**—Eccles calls attention to the danger of gastro-enterostomy from extensive manipulation necessitated

by delivery of the stomach for the proposed operation. In many cases either of sarcoma or ulcer which is apparently healed but placed under tension it may lead to perforation and peritonitis or hemorrhage. He reports a case of this kind.

8. **Separation of the Acetabular Epiphysis of the Femur.**—Several cases are reported by Robinson which he thinks establish the following points:

1. That we have to deal with genuine cases of separation of the acetabular epiphysis. 2. That injury, although it determines the separation, is aided in its effect by an antecedent change at the epiphyseal line. 3. That this pathologic change is presumably similar to what occurs in the coxa vara cases of adolescence, as suggested by Springel.

The Lancet, London.

October 10.

11 *Syringal Hemorrhage Into the Spinal Cord. William R. Gowers.
12 The Relationship of the Military Medical Service to the Civil Profession. V. Warren Low.
13 A Case of Diabetic Intraocular Lipemia, in Which the Blood Was Examined During Life. W. Hale White.
14 *On the Protective Effect Achieved by Antityphoid Inoculation as Exhibited in Two Further Statistical Records. A. E. Wright.
15 Some Remarks on 50 Cases of Bilharzia Disease, with Special Reference to the Characters of the White Corpuscles Found in the Blood and Urine. S. R. Douglas and F. W. Hardy.
16 *Some Investigations on the Urine of Children. Arthur W. Fuller.
17 *Some Observations and Comparisons on the Dietetic and Drug Treatment in Chronic Pulmonary Tuberculosis. D. Lloyd Smith.

11. **Syringal Hemorrhage of the Spinal Cord.**—Gowers calls attention to the possible presence of cavities in the spinal cord due probably to defective development and the dangers which they incur by hemorrhage into their lumen. He refers to cases in which dissection showed that this has occurred and reports other cases where symptoms pointed, he thinks, to this condition. There was local paralysis and anesthesia without any evidence of disease of the brain and pointing directly to a special local hemorrhage. It is seldom fatal and the diagnostic question is of considerable importance. When the death occurs it seems to be the result of erosion of extravasations into the substance of the cord or to a secondary spreading of the inflammation. He notices the importance of rest in these cases, not always prone on the back which might favor hemorrhage but in any position that would less favor the additional escape of blood. The importance of posture is especially insisted on.

14. **Antityphoid Inoculation.**—Wright gives tables showing the incidence of typhoid and its death rate in India during 1901 and in Lord Methuen's column at Modder River, South Africa, from December, 1899, to March, 1900. In both a certain portion of the troops were inoculated with the antityphoid serum. The incidence rate of typhoid was diminished to less than one-half, and the mortality rate as given in the Indian army was only one-sixth as great among the inoculated as among the uninoculated.

16. **The Urine of Children.**—Fuller has studied the urine of 63 healthy children and finds his results agree very fully with those of Churchill of Chicago, reported in the Archives of Pediatrics for 1898, p. 646. It appears that American (Chicago) and London children excrete a smaller amount of urine than those of Germany, Austria and some other countries.

17. **Tuberculosis.**—Smith publishes the diet chart of the Manchester Sanatorium and gives particulars of a series of cases treated with various drugs. He calls attention to the fact that the diet is of paramount importance. A meat diet supplies a physiologic want, but it should be employed to suit the patient's case, and especially in those with gastric disorders. With an abundant mixed diet cod-liver oil is not necessary. The object is not to make the patient a flabby mass of fat, but to turn out a solid, robust individual. A gain in weight is not everything. It sometimes occurs without improvement of the pulmonary condition. Here comes in the importance of supervision of the diet and vigilance of the medical attendant.

The Practitioner, London.

October.

18 The Diagnosis of Hysteria. Purves Stewart.
19 *The Results of Organotherapy in Addison's Disease. Edward W. Adams.
20 Headache. Guthrie Rankin.
21 *On the Frequency of Alimentary Glycosuria in the Children of Diabetic Persons. Arnold Lorand.
22 The Causation of Cancer. Alex. Theodore Brand.
23 *An Inquiry Into the Relations of Leukemia and Tuberculosis. W. J. Susmann.

19. **Addison's Disease.**—Adams concludes that in a certain number of cases of Addison's disease benefit is derived from the exhibition of some form of suprarenal, but it is impossible to determine just what cases these will be beforehand. Disappointment is likely to follow, though less so, he thinks, than in most alternative methods of treatment. The problem seems to be to get a sufficient and continuous dose of the pure active principle unchanged into the blood stream. Intravenous injection is impracticable.

21. **Diabetes.**—Lorand has experimented with test meals to determine the tendency to alimentary glycosuria in children of diabetics and finds that it is somewhat marked. These cases are often precocious, mature early and have early senile changes. Attention must be paid to the hygiene, the patients should lead a frugal life, avoiding rich foods, especially if meat is taken simultaneously with large quantities of sweet and amylaceous food. They should not follow occupations incurring great mental strain and he would advise against athletics. Slight accidents may produce traumatic diabetes.

23. **Leukemia and Tuberculosis.**—Susmann finds leukemia of either type rarely complicates tuberculosis, but the lymph type occurs two and a half times more frequently than the splenomedullary and as a complication it is six times more frequent in the male than the female. Tuberculosis may be latent and obsolete or occur as a terminal infection, or may be latent and lighted up by the leukemia. The last is the most frequent. When the two diseases are combined there is a tendency for the total number of leucocytes to be diminished and the spleen and glands to decrease in size. This is possibly due to the excess of nucleo-albumin and the increased phagocytic power of the blood, both of which occur in the leukemic patient.

Journal of Tropical Medicine, London.

October 1.

24 Notes on Collecting Mosquitoes. Herbert E. Durham.
25 *Malarial Fevers in West Africa. R. Crofts.
26 Municipal Sewerage. (Continued.) F. Smith.

25. **Malaria in West Africa.**—The peculiarities of West African malaria are described by Crofts, who remarks that remittent fever is the most frequent type. Europeans of mature age are best suited to stand the West African climate; under 26 or over 50 are unsuitable ages to attempt it. The average European on the West African coast thinks little of his diet; he eats too many meat meals daily. The Irish and Scotch are not so likely to do this. Crofts thinks a little alcohol in the evening is better than total abstention. The average attack appears with pains across the loins, frontal headache and vomiting and soreness in the lower extremities. The backache is as constant as in smallpox. Drugs such as bismuth and opium given for the vomiting only aggravate the condition. The two most valuable diaphoretics he has found are antipyrin and antifebrin, especially the latter. He has not seen any ill effects from it; the dose should be 5 grains. A purgative such as calomel should be given, 5 to 10 gr.; no other can compare with it. On the first examination the patient's urine should be examined for albumin and bile and the lungs to be sure there is no pneumonia. He protests against the use of opium. Arsenic is of incalculable value; it is much better than quinin in these cases. The dose should be at first a large one and gradually diminished; the best form is the liquor arsenicalis. As for quinin, all the good that is in it can be obtained from about 15 gr. daily; there is no good in large doses. A high temperature above 105 is serious, and he advises sponging with cold water for these cases, followed, may be, by a wet pack. Albuminuria is common. The most frequent cause of death is cardiac clot, though this is not generally recognized. The heart's action should be supported. Carbonate of ammonium is given to diminish the fibrin in the blood. The patients must be fed, and if we can not feed by the mouth we must feed by the rectum. Most patients require alcohol early.

Intercolonial Medical Journal of Australia, Melbourne.

August 20.

27 Appendicitis from the Physician's Point of View. James Jamieson.
28 The Operative Treatment of Quiescent Appendicitis. C. MacLaurin.
29 A Clinical Lecture on Some Cases of Suppurative Appendicitis. G. A. Syme.
30 Note on an Intradental Splint for Fracture of the Maxillæ and of Use in Operations Where Section of the Lower Jaw Is Required. R. A. Stirling and E. S. Bowen.
31 Notes on Cases of Eye Injuries. James P. Ryan.
32 Vascular Remains in Corneal Disease. James W. Barrett and W. F. Orr.
33 Case of Perforated Gastric Ulcer; Death Fifteen Days After Operation from Pulmonary Thrombosis. W. Moore. Right Knee Joint; Extensive Scalds of Right Leg; Operation.
34 Ruptured Extra-uterine Pregnancy; Lacerated Wound Into tion; Recovery. W. Moore.

Presse Médicale, Paris.

35 (No. 79.) Les streptococcies intestinales. Bactériologie. Pathogénie. P. Nobécourt.
36 *De la valeur de la méthode de Sahli pour l'examen clinique des fonctions de l'estomac. A. Habel and G. Humbert.

36. **Sahli's Functional Stomach Test.**—Habel and Humbert have given Sahli's "flour-soup" test a thorough trial in their clinical practice at Geneva (the technic was given in THE JOURNAL, xxxviii, p. 1477, ¶88). They describe the particulars of 23 cases, and state that their experience has fully confirmed the great value of the test. It is much simpler and easier than any others they know of; it shows the amount of food that passes out of the stomach in a given period, and the amount of gastric juice remaining in the stomach when the stomach tube is applied. It allows the proportion of acid in the gastric juice to be determined by itself, not diluted with fluids from a test meal. A further advantage is that one application of the stomach tube is all that is necessary. The dosage of the fat is sufficiently accurate for all practical purposes.

L'Obstétrique, Paris.

Last indexed XL, page 1614.

37 (VIII, No. 3.) *The Kidneys of Eclamptics. P. Bar.—Les reins des éclamptiques.
38 Le fœticide therapeutique devant la Société de Médecine Légale de la France. C. Maygrier.
39 Considérations sur le mécanisme de l'accouchement normal. Demelin.
40 (No. 4.) *Kidneys and Liver in Fetus Born of Eclamptic Mother. P. Bar.—Des lésions du foie et des reins chez les fetus nés de mères éclamptiques.
41 Du patronage des nourrissons (nurslings). M. Rivière.
42 La loi Roussel et les consultations de nourrissons. G. Mocquot.
43 (No. 5.) Early Diagnosis of Pregnancy. E. Bonnaire.—De la valeur de l'exploration du corps de l'utérus dans le diagnostic précoce de la grossesse.
44 4 observations de tumeurs fibreuses de l'utérus compliquant la grossesse et l'accouchement. Etude sur le diagnostic. V. Bué.
45 Dosage of Breast Milk. M. Perret.—Quantités de lait que doivent prendre au sein de leur mère les nouveau-nés à terme.

37. **The Kidneys in Eclampsia.**—Bar gives illustrations of the aspect and microscopic findings in a number of kidneys examined from women who had succumbed to eclampsia. Pronounced lesions were found in every one, and, in fact, he can not remember a single instance in his experience in which the kidneys of eclamptic subjects did not show gross pathologic lesions. In 4 of his present series of 24 cases the kidneys were profoundly affected; in 9 the lesions were of moderate and in 8 of slight intensity. In the remaining 3 the organs were not markedly pathologic. The lesions were all of the nature of those observed in toxic nephritis in which the action of some powerful poison rapidly destroys the epithelium of the convoluted tubules, diffusely affecting the rest of the organ, but less severely. Even in the mildest cases the lesions included ectasia of the convoluted tubules, and the capsule contained an albuminous fluid, but the intercanalicular tissue was approximately normal. The liver was affected in most of the cases, but not proportionately to the intensity of the kidney lesions, some of the mildest cases of the latter being accompanied by the severest liver lesions. The general impression derived from his research is that the findings indicate the action of some powerful poison suddenly attacking the kidney or liver, the diffuse lesions induced causing such perturbation in the functions of the organs as to be the cause of grave symptoms. It is possible that the liver is most affected in some cases, the kidneys in others.

40. **Kidney and Liver in Fetus of Eclamptic Mothers.**—In 80 cases of eclampsia in Bar's experience 37 of the children were stillborn. In 16 the fetus was macerated. In 21 cases the fetus succumbed after the first attack of eclampsia. Out of the 43 infants born alive, 27 died within three days. The fetal mortality was thus 80 per cent. in the 80 cases of eclampsia, and the survivors were all weakly children. The liver and kidneys of 17 of the fetuses were examined and marked congestion noted in all, with degenerative processes of rapid evolution similar to those observed in eclamptic women, but much less intense and less constant. They are apparently secondary, and derived by toxic action from the maternal organism. This view is sustained by their localization, frequency and analogy with those exhibited by the mother, although in neither case are the lesions pathognomonic. Even if the child survives, these vital organs are affected to such an extent as to hinder his normal development for a time at least.

Dermatologische Zeitschrift, Berlin.

Last indexed XL, page 1112.

46 (X, No. 2.) Dermatitis follicularis et perifollicularis conglobata. L. Spitzer (Vienna).
47 *Ueber multiple spontane Keloide. M. Tschlenow (Moscow).
48 Ueber die Eigenschaften des phototherapeutischen Apparates von Prof. Lortet und Dr. Genoud in Lyon. S. L. Bogrow (Moscow).
49 Study of an Affection in Hares. T. Mayer.—Ueber sogen. Hasenvenerie.
50 Comparison of Iron and Carbon Arc Light. G. Busck (Copenhagen).—Eisenbogenlicht contra konzentriertes Kohlenbogenlicht.
51 (No. 3.) Study of the Hair System in Man. F. Pinkus.—Zur Kenntnis des Haarsystems des Menschen.
52 Care of Mouth Under Mercurial Treatment and Certain Mouth Affections. J. Müller.—Mundpflege bei Quecksilberkuren und einigen Mundaffektionen.
53 Zur Etiologie und Anatomie der Erosio portionis vaginalis. H. Vörner.
54 (No. 4.) *Syphilis Parasite. M. Schüller (Berlin).—Ueber die protozoenähnlichen Parasiten bei Syphilis.
55 Nail Affection. J. Heller.—Ekzema striatum medianum unguium.
56 Syphilidologische Beiträge. Neuhaus (Berlin).
57 Iron and Carbon Arc Light. Kromayer (Halle).—Eisenbogenlicht contra concentriertes Kohlenbogenlicht.
58 *Ueber Trichohyalin. H. Vörner.

47. **Keloid.**—Tschlenow reports a case and discusses the literature. He remarks that under the name keloid we understand a special disorder of the skin, which from many points of view recalls a new growth and should be counted as such, of a fibroma type. Keloid may be either primary, corresponding to the designation of the earlier authors as "true" keloid, or secondary or scar keloid. Hypertrophied scar, however, should be distinctly separated from this group. Clinical and histologic studies show that a marked distinction between primary and secondary keloid is not based on facts. Both have the same type of development: histologic alterations or marked increase of the connective tissue with decrease of the elastic tissues along the blood vessels. The cutis is to be regarded as a particular starting point of this growth. Its etiology is obscure. The chief factors seem to be a special, personal, family or racial predisposition, under the influences of which the skin reacts in keloid formations from slight irritation, not, however, to every irritation or in every part. This explains also the remarkable tendency to relapses. As regards the pathology, the vascular system undoubtedly plays a large part, but further investigations are needed. Keloid is neither a scar nor simple hyperplasia of the connective tissue. It is different in its structure from infectious granuloma and fibroma, but its proper classification is still impossible. The cause for its spontaneous cessation of growth is unknown. Its prognosis is generally not very satisfactory and the treatment is usually a thankless task.

54. **Syphilis.**—Schüller defends his former announcement of the discovery of a protozoön-like parasite in syphilis, made by him in the *Centralblatt für Bakteriologie*, xxxii, Nos. 5 to 9, 1902. He has investigated new cases and illustrates the results of his histologic and cultural studies.

58. **Trichohyaline.**—This is the name given by Vörner to a new substance found by him in the hair roots which differs from the former elements there discovered, the eleidin and keratohyaline, in chemical, physical and staining qualities. It differs from hyaline by its greater resistance to acids and al-

kalies, as also in its different staining reaction. It colors yellow with the Van Gieson stain, while hyaline becomes red. It is undoubtedly a product of protoplasm and occurs earlier than eleidin and keratohyaline. It can be observed in the earliest hair structure.

Deutsche Medicinische Wochenschrift, Berlin.

59 (XXIX, No. 40.) *Zur Diagnose der Lungen-Tuberkulose. A. Schmidt (Dresden).
60 *Ueber die Pathogenese der gonorrhoischen Epididymitis und Behandlung mit Punktion. G. Baermann.
61 Suture in Operating for Senile Cataract. Bublitz.—Ueber die Naht beim Altersstarschnitt.
62 Discussion of Feasibility of Farm Colonies and Sanatoria for the Tuberculous on the Madeira Islands. J. Goldschmidt.—Ackerbaukolonien und Sanatorien für Tuberkulose auf Madeira.
63 Der XXXI deutsche Aerztetag. S. Alexander.

59. **Mistakes in Diagnosis of Pulmonary Phthisis.**—Schmidt sounds the alarm that we are getting into the habit of diagnosing tuberculosis when there is really no necessity for so doing. Naegeli has shown that the liabilities are that we are all tuberculous—the practitioner has only to decide whether the tuberculous infection is latent or progressing. Infinitely more harm is done, Schmidt thinks, by needlessly frightening persons with the announcement that they have tuberculosis than would result from the overlooking of a few cases that later proved to be actually progressing tuberculosis. The serum and tuberculin tests are more valuable when they are negative, he asserts, than when they are positive. He has frequently encountered persons who have been rendered morally and physically unfit for any occupation by the needless diagnosis of tuberculosis. They go from one sanatorium and resort to another, sacrifice time and money and never are well because their alarm keeps them ill. Physicians are overzealous in diagnosing tuberculosis, and a halt should be called. The progress of the affection in dubious cases will soon solve the question, and still be in time for appropriate treatment. He calls attention to three sources of error in the diagnosis of clinical tuberculosis: First, the physical signs of dulness and retraction of the apex which are caused by an irregularly-shaped shoulder girdle. The second source of error is in hemorrhages from small foci of bronchiectasia, and the third is the pseudo râles and friction sounds made by the edges of the lungs. He describes 5 cases in detail in which tuberculosis had been diagnosed by several physicians on the ground of dulness and apparent retraction of the apex, but careful, repeated examinations during a long period and the negative tuberculin test demonstrated that this diagnosis had been erroneous. In one case the dulness and apparent retraction of the apex were caused by the effects of atrophy of some of the muscles of the pectoral arch; in 2 others by a slight scoliosis of the upper part of the thorax, and in the others by an extra high scapula. The number would be materially larger if he included those cases in which tuberculosis had been presumptively diagnosed. These anomalies of the shoulder girdle are by no means uncommon. The elevation of the scapula may be congenital or the result of rachitis, inflammatory retraction of the levator scapulæ, ankylosis of the shoulder, or it may be due to some defect in the trapezius. Small bronchiectasic foci may induce repeated hemoptysis and thus simulate a tuberculous affection. In a case he relates a physician of 35 had suffered from severe hemoptysis recurring once or twice a year since his student days. Although he presented no other evidences of tuberculosis he was regarded as a consumptive by competent authorities and treated accordingly. The circumstance that he had pronounced drumstick finger suggested the possibility of bronchiectasia to Schmidt, and careful examination of the minute quantity of sputum which the patient was in the habit of coughing up once every morning, revealed the presence of minute "Dittrich's plugs." Isolated râles could also be heard in the interscapular space. The case was evidently one of circumscribed bronchiectasia, with possibly also an anthracotic gland with a perforation in the vicinity of one of the main bronchi. Pseudo râles and friction sounds are heard at the margins of the lungs, principally at the lower margin in subjects with scoliosis. When encountered they will be found constant, but they have no pathologic significance so far as the lungs are concerned. Repeated examination and the constancy of the sounds always at the same spot and uninfluenced by position, coughing, etc., differentiate them. A young merchant of his acquaintance had been proclaimed to be tuberculous on the basis of these sounds, and for years had spent his days in the vain search for relief from them, living all the time in the shadow of tuberculosis, but not presenting any other signs of the disease. Schmidt examined him year after year, and always noted the same delicate crepitations, as from atelectasia, along the margins of the lungs, but nothing else that could be construed as pathologic. Schmidt assured him that the sounds were accidental, but was unable to convince him that the diagnosis of tuberculosis had been erroneous, and he has not dared to give up his invalid mode of life. Schmidt does not attempt to explain these pseudo râles, although he suggests marginal emphysema as a possible cause. The frequency of the latter, however, is out of proportion to the number of cases in which these sounds are heard. Alterations in the position and mobility of the pleural sinus by changes in the bony skeleton may likewise be suggested as a possible explanation.

60. **Treatment of Gonorrheal Epididymitis.**—Baermann of Neisser's clinic at Breslau proclaims that every epididymitis which appears during a gonorrheal urethritis, is due to local invasion of gonococci. The latter can always be found in the puncture fluid. In the overwhelming majority of cases of epididymitis an abscess rapidly develops, either from congestion with secondary destruction of the walls of the epididymis or from actual suppuration. In the latter case there is always more or less well-developed hydrocele, which is likewise due to the local invasion of the layers of the tunica vaginalis by the gonococci. In certain circumstances it is possible to find gonococci persisting for years in the relics left of an old epididymitis. Early puncture in epididymitis accompanied by signs of violent inflammation is advisable as a therapeutic measure. This evacuates the abscess before the walls of the epididymis have been injured by it. Puncture is likewise advisable in case of inflammatory hydrocele, as by its evacuation better conditions for circulation and absorption are provided.

Jahrbuch f. Kinderheilkunde, Berlin.

Last indexed XL, page 1033.

64 (LVII, No. 3.) Laws of Growth. E. v. Lange (Munich).—Die Gesetzmässigkeit im Langenwachsthum des Menschen.
65 Congenital Eye Affections. W. Leitner.—Ueber congenitale Krankheiten des Auges.
66 Grippe und eitrige Meningitis mit dem Befund der Influenza-Bacillus. A. Hecht (Heidelberg).
67 Review of Scandinavian Pediatric Literature. A. Johanessen.—Uebersicht aus der nordischen pädiatrischen Lit.
68 (No. 4.) *Anti-fat Treatment of Children. E. Hellesen (Christiania).—Ueber den Stickstoffwechsel bei einem an Adipositat nimia leidenden Kind mit bes. Rücksicht auf Abmagerungskuren.
69 Zur Kenntnis der Hypertrophia cerebri als Krankheitsbild im Kindesalter. B. Schick (Graz).
70 Elastin of Infant Intestine. R. Fischl (Prague).—Ueber das Elastingewebe des Säuglingsdarmes.
71 Zur Kenntnis der non-traumatischen Esophagus-Perforation im Kindesalter. C. Zuppinger (Vienna).
72 Ueber larvierte Angina diphtheritica und follicularis. Schoen-Ladulevsky.

68. **Anti-Fat Treatment of Children.**—Hellesen gives the results of study of the metabolism of a child affected with *adipositas nimia*, and discusses the subject of anti-fat treatment of children, commenting on the difficulties encountered. Limiting the intake of fats to one-fifth of the "balance ration" seems to be the best method for reducing corpulence. An albumin-fat dietary is more harmful than albumin and carbohydrate diet when the quantities are restricted. His experience indicates that under no circumstances must the anti-fat dietary be kept up for more than a few days at a time or the development of the child will suffer.

Münchener Med. Wochenschrift, Munich.

73 (L, No. 39.) *Ueber die Müller'sche Operation bei Spina ventosa. O. Ehrhardt.
74 *Oculomotor Paralysis. A. Bielschowsky.—Das klinische Bild der assozierten Blicklähmung und seine Bedeutung für die topische Diagnostik.
75 *Evacuation of Gallstones by Flushing the Biliary Passages. F. Kuhn (Cassel).—Austreibung von Gallensteinen durch Spülung.
76 Beitrag zur Quadriceps-Plastik. S. Stiassny.

77 *Combating Venereal Disease. C. Fraenkel.—Die Bekämpfung der Geschlechtskrankheiten. (Commenced in No. 38.)

73. **Mueller's Operation for Spina Ventosa.**—Mueller operated on a dozen patients by excision of the morbid tissue of the spina ventosa and transplanting into the cavity thus formed a flap of periosteum taken from the neighboring long bone. The functional result years afterward has been excellent. Ehrhardt reports seven such transplantations undertaken on 6 patients. He found the procedure extremely simple, not requiring hospital care, and healing in at least three weeks. A complicating fistula proved no contraindication to operation. The patients were from 18 months to 15 years of age. Nine months have elapsed since the first case was operated on, and all of the children have movable fingers of normal shape and size. The method is not applicable when the joint is involved, but in all other circumstances seems to be by far the best method known to date.

74. **Significance of Oculomotor Paralysis for Topical Diagnosis.**—Bielschowsky reviews the publications on this subject which have proceeded almost exclusively from internists and neurologists, and gives cuts and a detailed description of a typical case. He mentions that no one to date has realized the importance of the information to be derived from passive movements of the head, turning it to one side with the eyes fixed on some special object. It is important in this and other tests of the movements of the eyes to note the behavior of the second eye. From the symptoms he describes he draws the deduction that the focus causing the disturbance must be to the front of the nucleus of the abducens, and have injured both dorsal longitudinal bundles, but probably only in certain sections. The fibers passing upward in each longitudinal bundle, which are the media of reflex stimulation of the muscles that turn the eye to the side during passive movements of the head, must have been still functionally active. The tract transmitting the impulse from the cortex to the nucleus region must also have been partially intact.

75. **Evacuation of Gallstones by Flushing the Biliary Passages.**—Kuhn flushes the biliary passages through a tube inserted in the fistula or during an operation, using physiologic salt solution under a pressure of 200 to 1,000 mm. water. It is possible to rinse the biliary passages in this way, obstruction to the flow indicating some obstacle in the way. Medicinal treatment can be applied directly to the lesion and the permeability of the passages can be ensured. He has never noted any inconveniences from this procedure, even when considerable force was applied, which caused a condition resembling that of a mild gallstone colic, fever, pains and slight icterus afterward. He commences with a pressure of 200 mm. of the water column and gradually increases to 500 mm. He has established certain formulæ for the behavior of the current, showing that it is possible by the flow of the water to determine whether there is an obstacle to the flow, whether the passages are normally permeable or whether they have been dilated by the frequent passage of stones. The washing away of gallstones by the mechanical force of the current is a valuable adjuvant to operation when there are innumerable small ones, but, of course, is not feasible with large impacted stones. In case of numerous small calculi he thinks it is impossible to remove them all during one operation unless the biliary passages are flushed again and again. In one case after every stone had been supposedly removed during the intervention which included ablation of the gall bladder, 40 small stones were brought away by rinsing out the upper biliary passages. Gallstone colic is merely the expression of increased pressure in the biliary passages caused by some obstruction to the escape of the biliary secretions. By inserting a tube and flushing these passages we create artificially the same conditions as in gallstone colic, distending the passages and forcing the contents along, but with the advantage that the physician is master of the situation and can control the condition, increasing the pressure at will and arresting the "attack" at any moment.

77. **To Combat Venereal Disease.**—Fraenkel argues at length to prove the superior advantages over the present systems of "controlled streets" for prostitution, that is, certain limited quarters set apart for prostitutes to live in, abolishing the brothels. These preventive regulations to be supplemented by personal prophylaxis. He remarks that the conditions at present in Berlin are more unbearable than in any other large European city, and that a respectable woman, even accompanied by gentlemen, can scarcely venture on the streets after dark without danger of seeing or hearing the most offensive things. All this is done away with in the cities that have introduced a system of "controlled streets."

Wiener klinische Wochenschrift.

Last indexed page 757.

78 (XVI, No. 33.) Physikalischer Untersuchung der Gasteiner Thermen. C. v. Than (Budapest).
79 *Tetanie und Autointoxikation. H. Loebl.
80 Polemic on Syphilis Bacillus. Joseph, Piorkowski and Pfeiffer.
81 (No. 34.) *Pains and Herpes in Pubic Region in Cases of Flat Foot. S. Ehrmann.—Ueber Herpes progenitalis und Schmerzen in der Regio pubica bei Plattfusz.
82 *Etiology of Baldness. M. Schein.—Zur Frage der Entstehung der Glatze.
83 *Ueber den Diabetes in der Chirurgie. O. O. Fellner.
84 (No. 35.) Ueber die agglutinierende Eigenschaft der Galle und des Serums beim Ikterus. R. Königstein.
85 Ueber Antihemolysine normaler Organe. R. Kraus and B. Lipschutz.
86 Zur Frage der Variabilität der Diphtherie-Bazillen. B. Schick and H. Ersettig.
87 (No. 36.) *Zur Pathologie der Tuberkulose der Gaumen-Tonsillen. E. Glas.
88 Tuberculosis of Thyroid Gland. D. Pupovac.—Zur Kenntnis der Tuberkulose der Schilddrüse.
89 Defect in Trapezius as Cause of Elevated Scapula. H. Neumann.—Zur Frage einer etiologischen Bedeutung des Cucullarisdefektes für den Schulterblatthochstand.
90 (No. 37.) *Der osmotische Druck und der Organismus. J. Kiss.
91 *Elimination of Bacteria. W. Noetzel.—Experimentelle Studien zur Frage der Ausscheidung von Bakterien aus dem Körper.
92 (No. 38.) Inhibiting Function of Acoustic Speech Center. A. Pick (Prague).—Zur Frage von den Hemmungsfunktionen des akustischen Sprach-Centrums im linken Schläfelappen.
93 Zur path. Histologie der Plexus chorioidei. C. Tsiminakis.
94 Paralysis of Larynx. A. Schüller.—Zur Kasuistik der Kehlkopflähmung.
95 Bilateral Deafness with Bilateral Cramps in Facialis Region. von Fragstein.—Ueber doppelseitige Gehörstörungen kombiniert mit bilateralem Krämpfe im Gebiete des Facialis nebst Bemerkungen über das Versorgungsgebiet der letzteren.

79. **Tetany and Autointoxication.**—Loebl states that one or more of the cardinal symptoms of tetany accompany typical cases of autointoxication. In two-thirds of the cases of autointoxication in his experience he noted spasmodic contraction of some of the muscles, while examination of the urine in case of manifest tetany invariably disclosed evidences of disturbed metabolism, transient acetonuria, albuminuria and casts in the urine. Permanent injury of the kidney was not encountered in any case. He defines tetany, therefore, as an affection due to autointoxication affecting particularly the peripheral neuromuscular apparatus.

81. **Disturbances in Pubic Region in Case of Flat-Foot.**—Ehrmann gives several cuts to illustrate his contention that the altered static conditions in flat-foot cause disturbances in the pelvis with resulting injury of the pudendus communis, liable to be manifested by herpes and pains in the pubic region.

82. **Etiology of Baldness.**—Schein suggests as a possible explanation for baldness the excessive stretching of the skin of the scalp as the galea and epicranius develop as habitual in men advancing in years. This stretching of the skin entails nutritional disturbances rendering the hairs less resistant. Pohl suggested years ago that this stretching might be counteracted by local application of diluted acids and alkalies. He did not appreciate, however, the importance of the development of the epicranius and galea as the cause of the stretching.

83. **Surgery and Diabetes.**—Fellner operated on a woman of 40 on account of bilateral pyosalpinx. Symptoms of progressive diabetes had been noticed for fifteen years, with four abortions during this time after two normal deliveries. He is inclined to believe that the diabetes had contributed to these abortions, and suggests that diabetes may be a factor in septic affections of the internal genitalia more often than is generally supposed. After the salpingectomy all symptoms of the diabetes vanished, but the patient succumbed after a few months to extension of the septic peritonitis. He discusses whether it is possible that

the iodoform used after the operation may have contributed to the cure of the diabetic symptoms, or whether it was due to evacuation of the septic foci or to the progressive cachexia. He accepts the latter surmise as most probable, and advises that the possibility of advancing cachexia should be borne in mind when diabetic symptoms vanish after long persistence.

87. **Tuberculosis of Tonsils.**—Among the 3 cases described by Glas were 2 of primary tuberculosis of the tonsils and one of miliary tuberculosis of the tonsils with consecutive general infection by the lymph and blood routes. In all these cases the tonsil was hypertrophied. In one case with a unilateral tonsillar affection, the corresponding vocal cord was involved. Tuberculosis in the tonsils seems to assume the form of a chronic, non-ulcerating sclerosis or to appear as miliary nodules.

90. **Osmotic Pressure and the Organism.**—Kiss emphasizes that the study of osmosis under physical conditions is not applicable to the osmosis under physiologic conditions. He points out that osmotic interchanges occur much more rapidly in the latter than in the former. It is not possible to explain the vital functions on the basis of osmosis, and it is more than probable that as the living cell works with molecules and ions, it utilizes the osmotic forces, guides and transforms them for its purposes in a way beyond the ken of physical chemistry.

91. **Elimination of Bacteria from Organism.**—Noetzel's experiments confirmed the results of others to the effect that in health there is no elimination of bacteria through the kidneys or glands. The bacterial toxins, however, are thus eliminated.

Medizinskoe Obozryenie, Moscow.

Last indexed page 997.

96 (LIX, No. 6.) *Surgical Treatment of Wandering Spleen. A. N. Sakharoff.—K chirurgii bluzhdayushtchei selezenki.
97 Removal of Prolapsed Spleen After Abdominal Trauma. P. Zhegalkin.—Slutchai udaleniya vypavshei selezenki pri ranenii zhevota.
98 Case of Traumatic Stenosis of Small Intestine. A. Kablukoff. —K kazuistik traum. stenoza tonkikh kishik.
99 *Pathogenesis of Pseudo-chylous Ascites. V. Polyakoff.—K patogenezu psevdokhiliznykh. ascitov.
100 *Gastric Digestion in Chronic Enteritis. V. P. Bazhenoff.—Zheludotchnoe pishtchevarenie pri khronitcheskom enteritye.
101 (No. 7.) Congenital Dilatation of Colon. V. P. Zhukovsky. —O vrozhdennom rasshirenii tolstykh kishek s hypertrophyei vsego kishetchnika, stenozom duodeni i vnutrennei gryzhei.
102 *Treatment of Congenital Phimosis. V. M. Rozhansky.—K lyetcheniu vrozhdennago phimoza.
103 *Epidemic Rubeola. N. N. Pismenny.—Epidemitcheskaya krasnukha i eya raznovidnosti.
104 *Quinin Subcutaneously in Malaria. P. M. Nevyadomsky.—O lyetchenii malarii podkozhnymi vpryskivaniyami khinina.
105 Migration of Lymphocytes. G. V. Vlasoff and E. K. Seppa.—K voprosu o dvizhenii i emigratzii limphocytov krovi.
106 (No. 8.) *Ob apoplektitcheskikh bulbarnykh paralytchakh. V. A. Muratoff.
107 *Case of Bulbar Paralysis with Amyotrophic Lateral Sclerosis. P. P. Tutyshkin.
108 *Influence of Alkalies on Experimental Infections. D. K. Auerbach.—O vlianii nyekotorykh shtchelotchei na tetchenie opredyelennykh infektzionnykh bolyeznei, exp. vyzyvaemykh.
109 Modification of Circulation in Case of Fat and Parenchyma Cell Embolism. M. N. Nikiphoroff.—Ob izmyeneniakh krovoobrashtcheniya pri zhirovol i parenchymklyetotchnoi emboliі.
110 *Initial Changes in Pulmonary Phthisis. A. Abrikosoff.—K voprosu o sushtchnosti samykh natchalnykh ezmyenenii pri legotchnoi tchakhotkye.

96. **Surgery of Wandering Spleen.**—Sakharoff thinks that if the spleen is more than two or three times its original size, it had better be removed instead of trying to merely fasten it in normal position. He describes a case in which he removed a malarial spleen from a woman of 28, a multipara. The spleen after its removal weighed 960 gm. The hemoglobin gradually increased from 60 per cent. after two weeks to 78 per cent. three weeks later, and the proportion of reds to whites from 115 to 1 at the first examination to 180 to 1 at the second. Her health has continued good to date. He mentions that her appetite became exorbitant for a time after the splenectomy, which phenomenon has been noted by other surgeons in such cases. Typical attacks of malaria also developed eleven days after the operation, but subsided under quinin. This has also been observed by others.

99. **Pseudo-Chylous Ascites.**—Polyakoff describes a case in which the chylous appearance of the ascitic fluid was due to the products of decay of the albuminoids and nuclein, not to admixture of fat.

100. **Gastric Digestion in Chronic Intestinal Inflammation.**—Bazhenoff relates the particulars of 5 cases of chronic enteritis in which special study was made of the gastric digestion. The findings indicate that the subjective sensations of such patients are mainly due to atrophic catarrh of the stomach. It is highly probable that this gastric affection is merely a propagation of the inflammatory process in the intestines. The subjective sensations do not always parallel the anatomic conditions. There may be no symptoms of dyspepsia and yet the wall of the stomach may be completely atrophied. When the gastritis develops secondarily, the prognosis of the intestinal affection may be formulated on the basis of the gastric disturbances, the severer the latter the less chances for recovery of the former. Examination of the stomach digestive functions is also necessary as a guide to diet.

102. **Treatment of Congenital Phimosis.**—Rozhansky recommends local injection of a 2 per cent. warm solution of boric acid twice a day, injecting enough of the fluid to dilate the preputial sac and thus mechanically restore conditions to normal while keeping the parts disinfected.

103. **Study of Epidemic Rubeola.**—Pismenny had occasion to observe an epidemic of 21 cases of rubeola and noticed that it developed in five different ways. In some subjects the eruption was typical, in others it resembled that of scarlet fever; in 8 cases the eruption was *sui generis*, the single patches much larger than usual, deeper colored, isolated, the intervening skin being normal. In 4 the exanthem resembled that of scarlet fever, but the catarrh was that of measles, and in 2 there was no catarrh. He often noticed that contagion from a subject with one form frequently induced the disease in another form. He therefore defines rubeola as an independent contagious disease which runs a course similar to that of mild measles, but occasionally resembles more that of an abortive scarlet fever, and most frequently presents a combination of these two forms. The incubation in his experience was about sixteen days.

104. **Treatment of Malaria with Subcutaneous Injections of Quinin.**—Nevyadomsky advocates the subcutaneous use of quinin when rapid action is desired. He has found this mode of administration peculiarly advantageous for children. In ten to fifteen minutes after the injection of .8 gm. quinin the ears begin to hum. He prefers for these injections a mixture of 10 gm. quinin hydrochlorate and .1 gm. morphin hydrochlorate to 20 gm. distilled water. The deltoid and pectoralis major regions are the best points for the injections, which should be made in the subcutaneous cellular tissue. His experience with thousands of these injections has been extremely favorable, but it has demonstrated that to be effectual the quinin must be injected at the close of the chill or at the commencement of the fever. This rapidly aborts the attack, while injections later, during the sweat or intermissions, do not influence future attacks. He has found that even long-established cases of malaria yielded temporarily or permanently to two or three injections, the cure completed by removal from the malarial region if possible..

106 and 107. **Bulbar Paralysis.**—Muratoff describes in detail a number of cases of what he calls apoplectic bulbar paralysis, with the anatomic findings. Tutyshkin also gives the details of a case of progressive bulbar paralysis with amyotrophic lateral sclerosis.

108. **Influence of Alkalies on Experimental Infections.**—Auerbach was impressed by the fact observed that an alkaline culture medium which was eminently favorable to the growth of bacterial cultures became bactericidal when heated to 108 F. The bacteria died when the temperature was raised to this point. Observation of this phenomenon suggested to him that the high temperature in fever may be a beneficent phenomenon, rendering the alkaline blood more bactericidal. He instituted experiments on animals to establish the correctness of this view, and announces that he found that the blood became less and less alkaline, the more intense the infection.

Endeavoring to restore the alkalinity of the organic fluids by injection of alkalies he found that the animals were able to withstand the inroads of the experimental infection much better than the controls. He concludes from his research that the fever in infections is an important aid in the defensive processes as it confers increased bactericidal power on the alkaline blood and probably also enhances the bactericidal power of other antibodies in the organism.

110. **Initial Lesions in Tuberculosis of Lungs.**—Abrikosoff examined 52 cadavers with circumscribed pulmonary tuberculous lesions and in 8 found the initial modifications caused by the infection. He reproduced them in rabbits by intravenous injection of cultures as well as by direct injection into the bronchi. His research also has established that the tubercle bacilli can penetrate from the bronchial glands into the bronchi even in the absence of lesions in the bronchial walls.

Hospitalstidende, Copenhagen.

Last indexed page 584.

111 (XLVI, No. 26.) *Urethral-Injektionernes Teknik. En ny Gonorrespröjte. C. Engelbreth.
112 (No. 27.) *Et Tilfaelde af Adiposis dolorosa hos en Dreng. T. S. Gudjohnsen.
113 (No. 28.) *Trials of Organ Therapy in Deficient Mammary Secretion. H. Prip.—Forsög med Organoterapi ved Hypogalakti.
114 4 Tilfaelde af Ileus. V. Harslof.
115 (No. 29.) *Om Xerophthalmi hos Smaaborn (in Infants). E. Jensen.
116 (No. 31.) *Introduction to Discussion on Puerperal Fever. J. Kaarsberg.—Om Behandlung af Barselfeber.
117 Et Tilfaelde af Atresia Intestini. C. E. Eldall.
118 (No. 32.) Introduction to Discussion at Madrid Congress on Causes of Deaf-Mutism. E. Schmiegelow.—Dövstumhedens Aarsager.
119 Dipsomani, Pseudodipsomani. P. D. Koch.
120 (No. 33.) *Behandlung af Lupus vulgaris ved Frysning med Chlor-ethyl. C. T. Hansen.
121 (No. 34.) Hospitalsbehandlung af Lungetuberkulose. J. Veje.

111. **Improved Technic of Urethral Injections.**—Engelbreth's article was reviewed in THE JOURNAL, page 890, abstracts 109 and 114.

112. **Adiposis Dolorosa in a Boy.**—Gudjohnsen's case was distinguished by the fact that the patient was a young man, and that the symmetrical lipomata were some of them painful and others not. The affection had commenced in childhood and none of the typical symptoms was lacking. In discussing the relations of this affection to myxedema he mentions the entire absence of the lunula unguis in his experience in both affections. He had successfully treated another case of painful lipomatosis by means of six weeks of massage and then two weeks of thyroid treatment, which banished the pains completely. In the present case the fat deposits were so large that the breast measure was 142 cm., almost 52 inches. When the weather was hot the patient did not suffer from pains or hyperesthesia, and consequently felt better in the summer. He was intelligent and slept well, but as his weight was constantly increasing he pleaded for thyroid treatment, which was accordingly instituted. He took two pills a day of 2 cg. of thyroidin with a milk-vegetable diet. After taking fourteen pills symptoms of thyroidin intoxication developed and the patient died eleven days after commencing this treatment. The writer reviews 21 articles that have been published on the subject, including a number by American as well as European authors, besides those of Dercum.

113. **Udder Extract in Treatment of Deficient Mammary Secretion.**—Prip describes 5 cases in which he was able to promote the breast secretion and procure ample nourishment for the child by having the mothers eat cows' udders thoroughly cooked in an appetizing manner. He now makes a soluble powder from the glycerin extract of udders which he proposes to use in future; a single udder, weighing about 4 pounds, makes 13 gm. of the powder. He thinks there is a promising future for this form of organotherapy.

115. **Xerophthalmia in Infants.**—Jensen thinks that a more correct name for this condition would be *ophthalmia ex inanitione*, and that prophylaxis consists in more rational feeding. The prognsis depends on the time when treatment is instituted, and treatment should be dietetic. Local treatment plays but a subordinate rôle.

116. **Puerperal Fever.**—Kaarsberg advocates banishing the curette and using the fingers for removal of the retained afterbirth, etc. He thinks that with appropriate local treatment, applied early, the number of cases of puerperal fever will be materially reduced. He is convinced that the use of the curette instead of the fingers is responsible for many mishaps. In one instance he relates, a septic polyp filling the entire corpus was found postmortem after the uterus had been supposedly thoroughly evacuated by the curette in skilled hands.

120. **Ethyl Chlorid Refrigeration Treatment of Lupus.**—Hansen has treated 13 patients with lupus vulgaris by refrigeration with ethyl chlorid. In 8 the affection had commenced within 5 years and in the others had lasted 5 to 9 years and more. The results were a complete cure in 2; apparent cure in 2, and gradual improvement in 2, with improvement but recurrence later in 4. To decide the merits of this method of treating lupus (mentioned in THE JOURNAL, page 584) he enquired of Finsen if any lupus subjects previously treated by this means had applied for treatment later to him. He found a record of 62. In 36 of these the refrigeration treatment had been briefly tried and abandoned, as no effect had been apparent. In the remaining 36 it had been energetically applied for three to eighteen months. In only 4 of this number had any actual gain been realized, and it was dubious in 2 of these. In 11 per cent. the treatment had been entirely ineffectual and in 78 per cent. the results had been actually unfavorable. The injurious action was the more marked the lesser the extent of the lesions and the duration of the affection. Hansen warns, therefore, that this treatment must be applied with great caution, as it is liable to do ultimately more harm than good.

Hygiea, Stockholm.

Last indexed page 528.

122 (LXV, No. 8.) Disposition of Sewage at Berlin. K. Wahlstedt.—Studier öfver renandet af kloakvatten.
123 Alkoholismen bland arbets-klassen i Stockholm. C. T. Scholander.
124 *The Gastric Juice in the Presence of Tapeworm. G. Törnell.—Om magsaftens beskaffenhet vid nagra fall af bandmask.
125 *Om prognosen vid retinitis albuminurica gravidarum. G. Ahlström.
126 Artificial Feeding of Weakly Children. K. O. af Klercker.—Principer för artificiell uppfödning af späda barn.
127 (No. 9.) *Typhoid Infection of Gall Bladder. I. Jundell.—Ett bidrag till kännedomen om den tyfösa infektionen i gallblasan.
128 Fall af perineal prostatektomi. G. Bäärnhielm.
129 Nagra ord om Ureter-Katetrisationen och des praktiska betydelse för diagnosen af kirurgiska njursjukdomar. N. Hellström.
130 Om balantidium coli och dess betydelse vid kroniska diarreer. N. Akesson. One case.

124. **Gastric Juice in Tapeworm Cases.**—In 12 out of the 17 cases examined there was no free hydrochloric acid to be found in the stomach and in 5 the acid reaction was very weak. No lactic acid was found, and it was noticed that the stomach emptied itself unusually promptly. In 24 cases of tapeworm in which the gastric juice had been examined, reported by Schaumans and others, free hydrochloric acid was entirely absent in 17. This brings the total proportion to 29 out of 41 cases, that is, 71 per cent. of the entire number of cases in which the gastric juice was examined in persons harboring tapeworms.

125. **Prognosis of Retinitis Albuminurica Gravidarum.**—Ahlstrom describes in detail 7 cases of this affection. In one there were severe symptoms of retinitis in both eyes with detachment of the retina in one eye. A few days later spontaneous abortion occurred at the seventh month, followed by complete restoration of vision. In 2 cases of retinitis vision was much improved after premature delivery the seventh to eighth month. In another patient severe symptoms of retinitis appeared at the second or third month. After premature delivery at the eighth month there was marked atrophy of the optic nerve with almost complete loss of sight. In still another the retinitic symptoms had been of moderate intensity, but vision had been impaired after the sixth month. The pregnancy was terminated by normal delivery. The optic nerve is completely atrophied with amaurosis in both eyes. These cases show that delivery soon after the appearance of the first symptoms of retinitis may be followed by restitution,

while delay may be fatal for vision. The symptoms most important for the prognosis are hemorrhage into the retina and the reflex anomalies in the arteries described by Silex. Whenever one or both of these symptoms are noted in the early stages of a pregnancy it must be interrupted at once, but when not observed until a late stage, expectant treatment is justifiable until there is a prospect of a viable child from a premature delivery. If the patient can not be kept under constant surveillance delivery must be immediate, as also when severe symptoms develop. Further pregnancies must be prevented in women who have once exhibited symptoms of the affection. He describes the particulars of all his cases, including one in which the patient succumbed to eclampsia soon after the symptoms of retinitis had been observed. Another case was lost sight of.

127. **Typhoid Infection of Gall Bladder.**—Jundell gives a careful review of what has been published on this subject, and describes a case personally observed. The patient was a woman of 31, who stated that she had had typhoid fever at the age of 16. She occupied a room with a person who was found to have typhoid, and, herself, exhibited symptoms that suggested typhoid infection on which those of cholecystitis were soon superposed. Operative intervention became necessary toward the end of the fourth week of the typhoid infection and a stone of cholestearin about the size of a hazel nut was found in the cystic duct and typhoid bacilli were cultivated from the gall-bladder secretions. The stone could not have developed in consequence of typhoid infection of the gall bladder, as such a stone is of slow, gradual formation. The stone had probably been pre-existent and had been the predisposing cause for the typhoid infection of the gall bladder.

Books Received.

Acknowledgment of all books received will be made in this column, and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

THE PRACTICE OF MEDICINE. A Text-book for Practitioners and Students, with Special Reference to Diagnosis and Treatment. By James Tyson, M.D., Professor of Medicine in the University of Pennsylvania. Third Edition, Thoroughly Revised and in Parts Rewritten. With 134 Illustrations, Including Colored Plates. Cloth. Pp. 1,240. Price, $5.50. Philadelphia: P. Blakiston's Son & Co. 1903.

MANUAL OF PRACTICAL ANATOMY. By D. J. Cunningham, M.D. Edin. et Dubl., D.Sc., LL.D., D.C.L. Oxon., F.R.S., Professor of Anatomy in the University of Edinburgh. Volume I: Upper Limb, Lower Limb, Abdomen. Volume II: Thorax, Head and Neck. Third Edition. Illustrated. Cloth. Pp. 605 and 607 Respectively. Price, $5.00. Philadelphia: J. B. Lippincott Company. 1903.

THE DECENNIAL PUBLICATIONS. The Structure of the Glands of Brunner. By Robert Russell Bensley, Assistant Professor of Anatomy. Printed from Volume X. Paper. Price, $1.00. Chicago: University of Chicago Press. 1903.

THE MEDICAL ANNALS OF MARYLAND. 1799-1899. Prepared for the Centennial of the Medical and Chirurgical Faculty. By Eugene Fauntleroy Cordell, M.D. Cloth. Pp. 888. Baltimore: Williams & Wilkins Co. 1903.

TRANSACTIONS OF THE NEW HAMPSHIRE MEDICAL SOCIETY, at the One Hundred and Twelfth Anniversary. Held at Concord, May 21 and 22, 1903. Cloth. Pp. 256. Concord, N. H.: Ira C. Evans Co. 1903.

REPORT OF THE SURGEON-GENERAL OF THE ARMY TO THE SECRETARY OF WAR. For the Fiscal Year Ending June 30, 1903. Paper. Pp. 156. Washington: Government Printing Office. 1903.

New Patents.

Patents relating to medical devices, etc., September 15 to 29:

738887. Ophthalmoscope. Henry L. De Zeng, Philadelphia.
738897. Hydro-electrotherapeutic apparatus. Daniel C. Fisher, Boston.
738995. Orthopedic corset. Franz Haas, Prague, Austria-Hungary.
739083. Massage instrument. John W. Hyatt, Newark, N. J.
739182. Binocular microscope. Frederic E. Ives, Philadelphia.
739098. Combined head gear and ear trumpet. Thomas W. Messenger, Quorn, South Australia.
739200. Splint. John R. Moore, Ironwood, Mich.
738842. Truss. Solomon H. Phillis, Pana, Ill.
739267. Machine for making bandages. Frederick L. Pohlmann, St. Louis.
738848. Atomizing device. Walter Sams, Chicago.
738960. Clinical thermometer shield. Harry Vaughan and J. W. Arrowsmith, Morristown, N. J.
739471. Tray support and closet for physician's tables. William D. Allison, Indianapolis.
739297. Disinfecting device. William H. Dayton, Cleveland.
739670. Vision testing apparatus. Robert K. Grove, Buffalo.
739419. Scarifier tongs. James M. Hyde, San Francisco.
739317. Disinfectant block. Clarence C. Jenkins, Brooklyn.
739336. Invalid bed. William McLennan, Ogdensburgh, N. Y.
739844. Means for promoting the growth of hair. Frederick W. Evans, Columbia, Tenn.
740002. Collapsible stretcher. Kaspar Freuler, Zurich, Switzerland.
740152. Serum container and injector. Thomas J. Lynch, Marietta, Pa.
739941. Manufacturing disinfectants. Carl Spengler, Davos-Platz, Switzerland.

The Public Service.

Navy Changes.

Changes in the Medical Corps of the Navy, week of Oct. 17, 1903:

Asst.-Surgeon C. H. DeLancy, detached from the *Hancock* and ordered to the *Petrel*.

Asst.-Surgeon R. K. McClanahan, detached from treatment at the Naval Hospital, Mare Island, Cal., ordered home, with three months' sick leave.

Pharmacist S. W. Douglass, detached from the Navy Yard, Portsmouth, N. H., and ordered to the Naval Magazine, Iona Island, N. Y.

Surgeon W. F. Arnold, detached from treatment at Naval Hospital, Mare Island, ordered home, with three months' sick leave.

Medical Inspector W. R. DuBose, commissioned medical inspector, with the rank of commander, from June 20, 1903.

P. A. Surgeon C. H. DeLancy, commissioned passed assistant surgeon, with rank of lieutenant, from June 7, 1903.

P. A. Surgeon D. H. Morgan, when discharged from Naval Hospital, Mare Island, granted sick leave for three months.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, Public Health and Marine-Hospital Service, during the week ended Oct. 16, 1903:

SMALLPOX—UNITED STATES.

Alabama: Mobile, Oct. 4-10, 4 cases.
California: Los Angeles, Sept. 27-Oct. 3, 6 cases; San Francisco, Sept. 28-Oct. 4, 1 case.
Illinois: Chicago, Oct. 4-10, 3 cases; Danville, Oct. 4-10, 2 cases.
Maryland: Baltimore, Oct. 4-10, 1 death.
Michigan: Detroit, Oct. 4-10, 1 case.
New York: New York City, Oct. 4-10, 4 cases; Niagara Falls, Oct. 4-10, 2 cases.
Ohio: Cincinnati, Oct. 3-9, 1 case.
Pennsylvania: Altoona, Oct. 4-10, 1 case; Carbondale, Oct. 8-14, 2 cases; Philadelphia, Oct. 4-10, 11 cases, 3 deaths.
Tennessee: Memphis, Oct. 4-10, 2 cases.
Texas: San Antonio, Sept. 1-30, 12 cases, 1 death.
Utah: Salt Lake City, Sept. 27-Oct. 10, 8 cases.
Wisconsin: Milwaukee, Oct. 4-10, 7 cases.

SMALLPOX—INSULAR.

Philippine Islands: Manila, Aug. 22-29, 3 cases, 1 death.

SMALLPOX—FOREIGN.

Austria-Hungary: Prague, Sept. 20-26, 4 cases.
France: Paris, Sept. 20-26, 1 death.
Great Britain: Bradford, Sept. 20-26, 8 cases; Newcastle-on-Tyne, Sept. 20-26, 5 cases.
Italy: Catania, Sept. 25-Oct. 1, 1 death.
Russia: Moscow, Sept. 13-19, 1 case, 1 death; Odessa, Sept. 20-26, 1 case; St. Petersburg, Sept. 13-19, 42 cases.
Spain: Barcelona, Sept. 13-26, 4 cases.

YELLOW FEVER—UNITED STATES.

Texas: Laredo, Oct. 7-15, 180 cases, 10 deaths; Minera, Oct. 3-12, 50 cases.

YELLOW FEVER—FOREIGN.

Costa Rica: Limon, Sept. 25-Oct. 1, 2 cases, 1 death.
Mexico: Linares, Sept. 6-26, 446 cases, 202 deaths; Merida, Sept. 6-26, 18 cases, 4 deaths; Nuevo Laredo, Oct. 5-13, 18 cases, 2 deaths; Quintana Roo, Sept. 20-26, 1 case, 1 death; Tampico, Sept. 27-Oct. 3, 5 deaths; Tehuantepec, Sept. 6-26, 6 deaths; Salina Cruz, Sept. 6-26, 4 cases, 2 deaths; Valladolid, Sept. 13-26, 1 case; Vera Cruz, Sept. 27-Oct. 3, 45 cases, 9 deaths.
Venezuela: Caracas, Sept. 15, 1 death.

CHOLERA—INSULAR.

Philippine Islands: Manila, Aug. 22-29, 19 cases, 19 deaths; provinces, Aug. 22-29, 1,593 cases, 1,262 deaths.

CHOLERA—FOREIGN.

China: Shanghai, Aug. 22-29, 9 cases.
India: Calcutta, Sept. 6-12, 4 deaths; Madras, Sept. 5-11, 2 deaths.
Turkey: Syria, Sept. 1-14, 473 cases, 317 deaths.
Straits Settlements: Singapore, Aug. 23-29, 7 deaths.

PLAGUE—INSULAR.

Philippine Islands: Manila, Aug. 22-29, 2 cases, 1 death.

PLAGUE—FOREIGN.

Egypt: Alexandria, Sept. 5-11, 10 cases, 5 deaths; Damiette, Sept. 5-11, 1 case, 1 death.
France: Marseilles, to Sept. 15, 9 cases, 1 death.
India: Bombay, Sept. 2-15, 142 deaths; Calcutta, Sept. 6-12, 13 deaths.
Japan: Yokohama, Aug. 22-Sept. 12, 4 cases, 3 deaths.